FOUNDED IN 1856

RAILWAY AGE

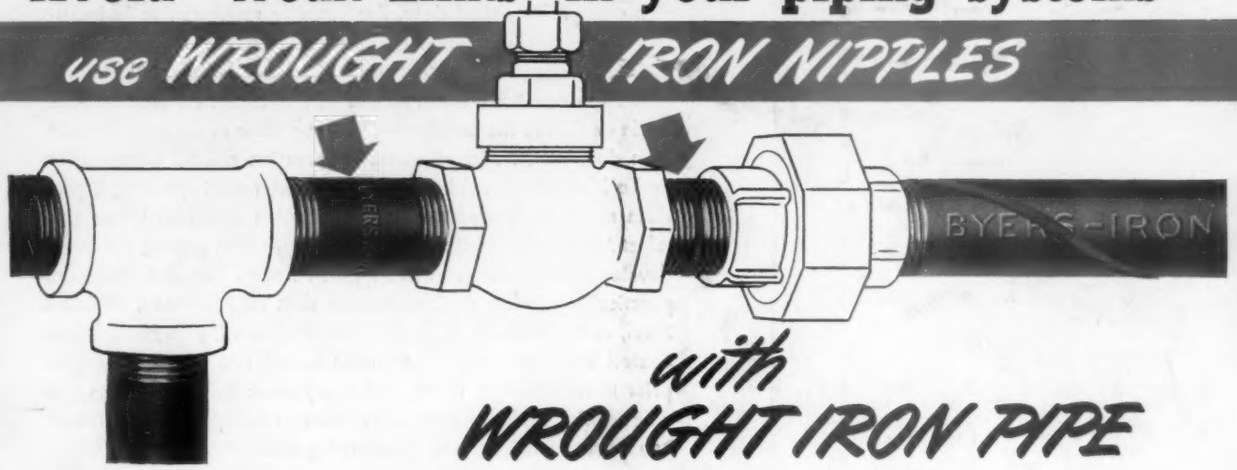
THE STANDARD RAILROAD WEEKLY FOR ALMOST A CENTURY

SEPTEMBER 23, 1950

SEP 27 1950

Avoid "Weak Links" in your piping systems—

use WROUGHT IRON NIPPLES



with WROUGHT IRON PIPE

When you specify wrought iron pipe to lick some corrosion problem, assure 100% protection by specifying that the pipe nipples also must be wrought iron. Neglect of this simple precaution will leave weak spots in your lines, and set the stage for maintenance headaches.

METHOD OF SPECIFICATION

Merely stating that the piping "system" is to be black or galvanized wrought iron is not enough; the use of wrought iron nipples should be specifically designated. This may be done by requiring that the wrought iron nipples shall be made of pipe conforming to the requirements of A.S.T.M. Specification A72-45, Federal Specification WW-P-441a, Navy Specification 44P11k, or any accredited proprietary specification.

WIDE RANGE OF SIZES

Byers Wrought Iron nipples, both standard weight and extra strong, are available in a wide range of sizes and lengths, either black or galvanized. They are manufactured from new, tested, full-weight wrought iron pipe in accordance with the standards established in the specifications of leading technical organizations. All nipples are furnished with right-hand threads unless otherwise specified; nipples with right and left-hand threads are also available. Nipples are furnished "close" or to length as specified.

IDENTIFICATION

The word "Byers" and the weight —either "Std." or "X Stg." are machine stamped around the circumference of Byers Wrought Iron nipples. On close nipples, where it is impractical to stamp on the threads, a red band is used. These markings provide quick, positive identification of Byers Wrought Iron nipples, and help to avoid any danger of accidental substitution of non-durable nipples in the line.

Wrought iron nipples are also available from a number of manufacturers. The identification used on such nipples may be learned by consulting the supplier.

Wrought iron welding fittings are available in a wide range of types and sizes from leading fitting manufacturers. Just contact your supplier.

INHERENT CORROSION RESISTANCE

The superior resistance of wrought iron nipples comes from the unique composition and structure of the material. Tiny threads of glass-like silicate slag, distributed through the body of high-purity iron, halt and "detour" corrosive attack, and so discourage pitting. The fibers also anchor the initial protective scale, which shields the underlying metal.

The best guide in applying wrought iron is a knowledge of its character and properties. The complete story is presented in the booklet, "The ABC's of Wrought Iron". Ask for a copy.

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, Salt Lake City, Seattle, San Francisco. Export Division: New York, N.Y.

BYERS

GENUINE WROUGHT IRON

TUBULAR AND HOT ROLLED PRODUCTS

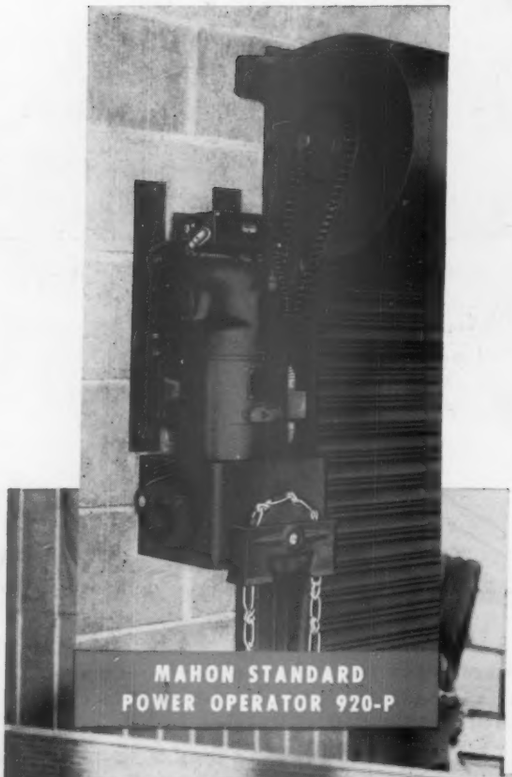
ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

CORROSION COSTS YOU MORE THAN WROUGHT IRON

Rolling Steel DOORS

Manually, Mechanically, or Power Operated

No other type of door can come close to matching the advantages of a good rolling steel door. For virtually any opening in industrial or commercial buildings, the quick-opening, quick-closing, vertically acting rolling steel door offers more desirable features than any other type. Open or closed, it occupies no usable space inside or outside the building — it rolls up clear of the opening safe from damage . . . its all metal construction assures permanence and a lifetime of trouble-free service, and, most important, it provides maximum protection against intrusion and fire. When you select Mahon Rolling Doors, you can depend on getting the latest developments in doors of this type . . . more compact and more practical operating devices, curtain slats of Aluminum, Stainless Steel, or Galvanized Steel scientifically cleaned, phosphated, and coated with high temperature oven baked rust inhibiting enamel prior to roll-forming. These, and many other built-in features that characterize Mahon Rolling Steel Doors, merit your consideration. See Sweet's Files, or write for Catalog G-50.



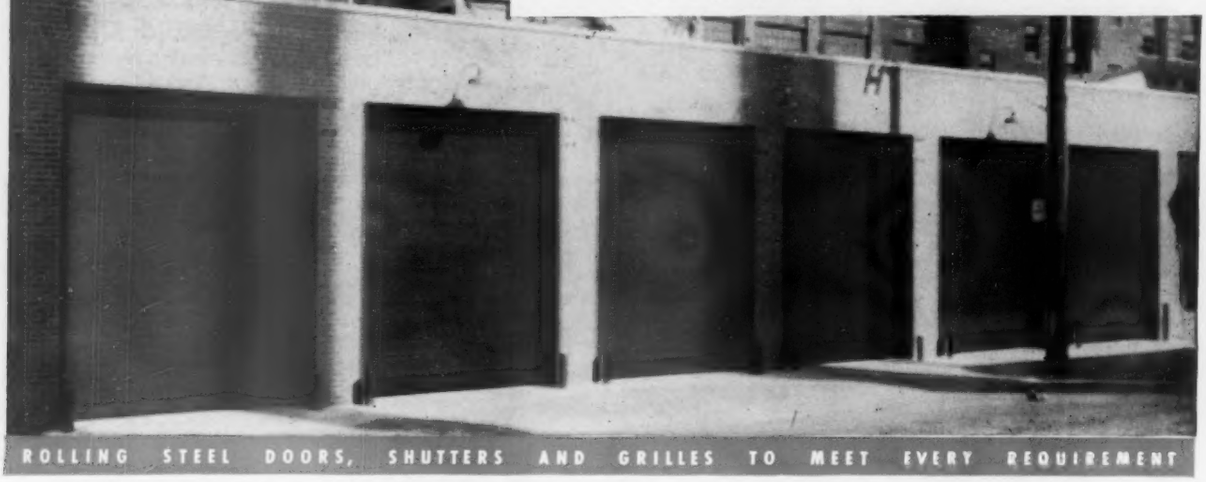
MAHON STANDARD POWER OPERATOR 920-P

THE R. C. MAHON COMPANY

Detroit 34, Michigan • Western Sales Division, Chicago 4, Illinois

Representatives in all Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls, Steel Deck for Roofs, Partitions, Acoustical Ceilings, and Permanent Concrete Floor Forms.



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Six Mahon Power Operated Rolling Steel Doors installed in truck openings in The Timken-Detroit Axle Company's Plant, Detroit, Michigan.

MAHON

Published weekly by Simmons-Boardman Publishing Corporation, Orange, Conn. Executive Offices, 30 Church Street, New York 7, N. Y. Entered as second class matter at Orange, Conn., under the act of March 3, 1879. Subscription price $6.00 for one year, U. S. and Canada. Single copies, 50 cents each. Vol. 129, No. 13.

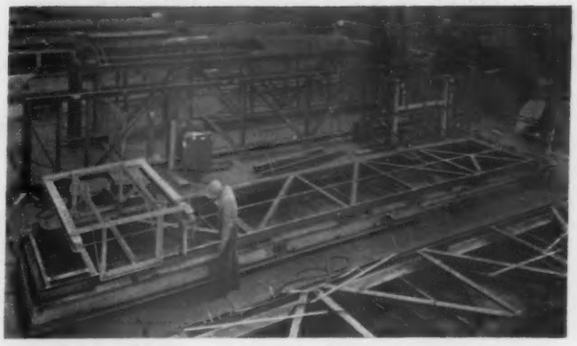
Building them stronger with **Mayari R**

Greater strength and improved resistance to atmospheric corrosion are provided by Mayari R in this 4-unit, diesel-electric freight locomotive. Mayari R beams and angles add strength to the main frame and to the trusses supporting the cab sides, while sheets of Mayari R afford greater corrosion-resistance to the cab end panels, frame sump, electrical cabinet, and radiator air ducts.

It is an excellent example of the kind of design improvements made possible in modern motive power by the proper use of low-alloy, high-strength steel.

Besides its use in locomotives, Mayari R is widely employed in all types of railway cars, coaling stations, blast plates, ballast plates, cranes and bridges. In many of these it is used primarily to effect deadweight reduction; in some it is used to increase strength; and in others it is used chiefly for its resistance to corrosion.

Whatever your design problems may be it will pay you to consider the advantages of this versatile steel. Full information on Mayari R is yours for the asking. Call or write for a copy of Catalog 259.



6000-hp diesel-electric locomotive units during construction at the Eddystone plant of The Baldwin Locomotive Works. Ordinary shop methods and equipment were used for fabricating and welding the Mayari R members in these frames.

BETHLEHEM STEEL COMPANY
BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation.

BETHLEHEM STEEL

Mayari R *makes it lighter... stronger... longer lasting*

In Times of Stress—

America is Fortunate In its Warehouse Steel Service

In national emergencies America is fortunate in having a well developed steel warehouse industry with facilities strategically placed throughout the nation—taking care of the day to day requirements of steel users.

As you know, the steel distributor serves as a collective source making steel quickly available to all industry—and thus reducing the need for larger individual inventories. In this way the greatest turnover is developed and a maximum tonnage is always in use.

Naturally only a portion of our country's production requirements can be served from warehouse stocks but very often top production can be maintained only through quick shipments of steel that is missing. The essentiality of these warehouse services has been proven again and again—in every national emergency.

Here at Ryerson, the Korean situation has naturally increased the demand for steel. Requirements, growing directly and indirectly out of the new conflict, are adding to the tremendous demand that has existed—almost entirely without let-up—since the beginning of World War II.

In spite of this increased pressure, we are making every effort to serve steel users promptly. In times like these, shortages are inevitable. But we do have a large though uneven stock on hand in our nation-wide steel service plants. So for any steel you need, contact your nearby Ryerson Plant. We'll do our level best to fill your order.

JOSEPH T. RYERSON & SON, INC.

PARTIAL LIST OF PRODUCTS — BARS • STRUCTURALS • PLATES SHEETS • TUBING — IN CARBON, ALLOY & STAINLESS QUALITIES

RYERSON STEEL

STEEL-SERVICE PLANTS AT: NEW YORK • BOSTON • PHILADELPHIA • DETROIT • CINCINNATI • CLEVELAND PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO

Vol. 129, No. 13 September 23, 1950

RAILWAY AGE

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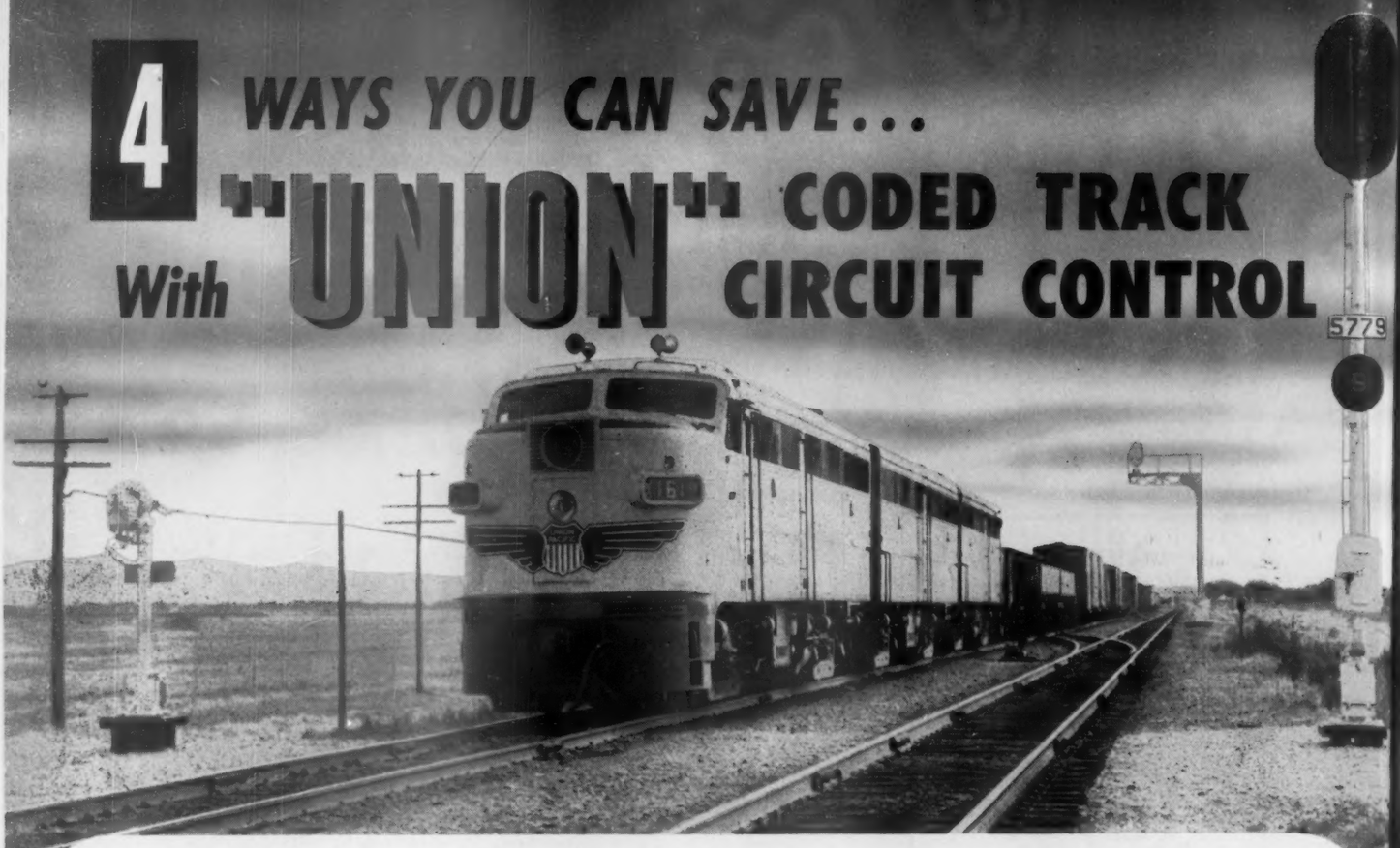
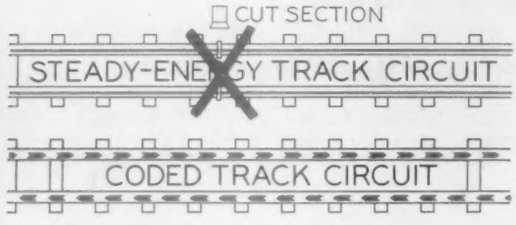
4 WAYS YOU CAN SAVE... With "UNION" CODED TRACK CIRCUIT CONTROL



1

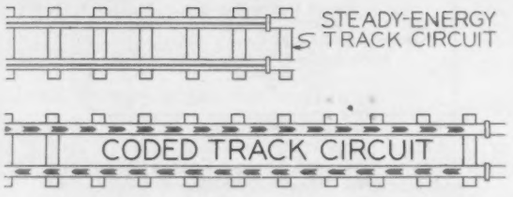
"Union" Coded Track Circuit Control utilizes the track rails for transmittal of signal controls . . . makes it possible for you to reduce, or entirely eliminate, the cost of installing and maintaining line wire.

2



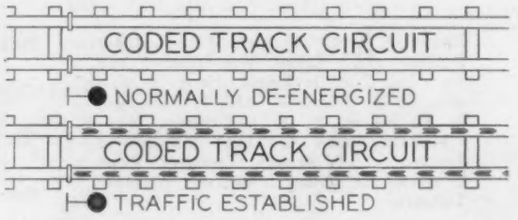
Since Coded Track Circuits can be much longer than those using steady-energy under comparable conditions, there are fewer cut sections to install and maintain.

3



Important battery economies are possible, too, since the much longer Coded Track Circuits usually can be energized with less battery consumption than required for the shorter steady-energy circuits.

4



Normally de-energized Coded Track Circuit Control can be used in light and medium-traffic C.T.C. territories to reduce power requirements substantially.

Remember, too, that while "Union" Coded Track Circuit Control affords these important economies, it also insures greater reliability and safety. Our nearest district office will be glad to give you full details.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE PENNSYLVANIA

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

WEEK AT A GLANCE

GOING UP: With traffic and net income both showing substantial improvement, estimates on the year's total railroad capital expenditures have also been revised upward. The latest "Monthly Comment" of the I.C.C.'s Bureau of Transport Economics and Statistics, summarized on page 40, now calculates such expenditures, by Class I roads, at $1,039 million—with second-half expenditures estimated to be nearly as large as those in the last six months of 1949. If anything, the 1950 spending estimate may be on the low side—it does not include quite all Class I railroads; it does not take into account the heavy expenditures for rolling stock acquired by insurance companies for lease to railroads, and it "presumably" covers only a small part of the many cars and locomotives which recently have been ordered but which have not yet gone into service.

SHIPPERS BOARDS: While the Allegheny Regional Advisory Board was hearing last week from Lackawanna Vice-President Shoemaker a lucid explanation of how his company is using "what it has" to alleviate the car shortage situation, New England shippers in another board meeting were saying some pretty harsh things about the I.C.C.'s recent car utilization orders, and turning a deaf ear to a railroad request for assistance in reducing unprofitable passenger operations. More now than at any time since 1945 is there need for effective shipper-railroad cooperation, if present traffic volume is to be efficiently moved, but the lack of interest displayed in New England, at least, is cause for grave concern as to whether that cooperation will be forthcoming. Both meetings are reported in the News.

NET INCOME GAINS: As briefly reported in the *Railway Age* of September 9, estimated net income of Class I roads for 1950's first seven months was $269 million—almost 35 per cent over the $201 million for the corresponding months of last year. Detailed figures, which show improvement in all districts in both net income and net railway operating income, are given in the News pages. With August gross estimated nearly one-fifth higher than in August, 1949, net income for the year's first eight months ought to show a further substantial gain.

COORDINATION OR COMPETITION? Economically, which is sounder—coordination or competition in rates between the several forms of transportation? G. Lloyd Wilson, of the University of Pennsylvania, explores that question in the article which starts on page 33; on the basis of British experience, he reaches the tentative conclusion that "the evidence points toward the desirability of competition."

WHAT MAKES THE "SHASTAS" TICK? A little over a year ago the Southern Pacific introduced its "Shasta Daylights"—twin 15-car luxury coach streamliners for daylight operation between San Francisco and Portland, Ore. That run, the S. P. felt, provided natural factors favorable to remunerative passenger business; the "Shastas" were designed to supplement those natural factors with the equally favorable artificial factors of right equipment, right schedule and right fare. How successful the whole combination has been is told on pages 26-29, in an article which gets right down to brass tacks on such matters as fare structure, service and passenger reaction.

OFFICE BUILDING—NEWEST STYLE: The Frisco's new office building at Springfield, Mo., isn't very large, as such buildings sometimes go—but it's planned with an eye to the future. As told in the article beginning on page 30, for example, it includes provision for a possible additional floor; perimeter heating, and movable partitions which make it possible to enlarge or contract individual offices.

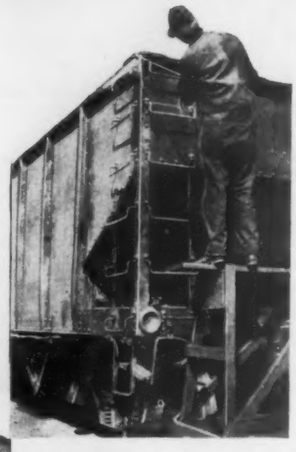
SIGNAL SECTION: Beginning on page 37 is a condensed report of this week's annual meeting, at New York, of the Signal Section of the A.A.R. Included are abstracts of addresses by Interstate Commerce Commissioner W. J. Patterson and C. & O. Vice-President C. A. Taylor.

GAS-TURBINE LOCOMOTIVE FOR BRITAIN: Indicative of the widespread interest in new forms of railroad motive power, British Railways, this past spring, conducted preliminary trials on their first gas-turbine locomotive—a 2,500-hp., 90-m.p.h. unit built in Switzerland by Brown-Boveri. The new unit is described, and illustrated, in the article which starts on page 22.

IN THE SPOTLIGHT: Erie to streamline its freighthouse operations.—I.C.C. approves lake-coal demurrage pact.—Bergson, anti-trust chief, quits Justice Department.—Electric lines get increase in mail pay.—Senate subcommittee begins investigation of B.R.T.-O.R.C. wage case.—Railroads make new operating records in first six months.—Second quarter truck traffic sharply higher.—Orders reported for 9,765 freight cars, 80 Diesel locomotive units, and four rail Diesel cars.—Inquiries issued (or bids received) for 3,500 freight cars.

WHAT CAN BE DONE—to keep the railroads "ready" for emergencies? In World War II, despite the starvation diet of the preceding decade, the railroads, as everyone knows, did a magnificent job of transportation. Now, after another period of publicly-imposed starvation, they are being called upon for another big job. They will, of course, do their level best, as always—but is it wiser policy to proclaim themselves ready for any military load that may be imposed upon them, or to state frankly that public policies have prevented them from earning the money to carry out a sustained program of preparedness for peak emergency traffic? This question is discussed in the leading editorial on page 19.

Flame cleaning cuts freight car repainting costs

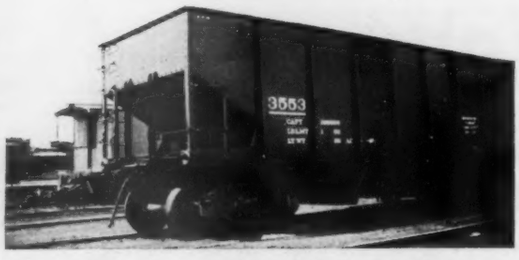


Flame cleaning car sides using Style 120 six-inch flat tip. Compare cleaned area with section being cleaned.

as much as

35%

Flame Cleaning car end post with Style 738 round bend tip — ideal for removing scale around corners and rivets.



Car completely flame-cleaned and painted, ready for service.

Here's How . . . According to one railroad's officials, oxyacetylene flame cleaning is important to lower freight car maintenance costs — saving time prior to repainting. Total costs of labor and gases, for flame cleaning and wire brushing a car, average $20.50 or $.0142 per square foot — about 35% less than previous methods.

Pleased with the results, the railroad is making plans to flame clean all hopper bottom cars, gondolas and steel box car ends.

Quickly, easily and safely applied, the oxyacetylene flame cockles old paint, loosens rust, and drives off hidden moisture, providing a clean, warm and dry surface, conducive to a lasting paint job.

In planning new cars, too, flame cleaning prior to painting, has its advantages. It loosens mill scale, leaving no moisture to start corrosion.

For further information about this fast, economical method for preparing freight cars for painting, write your nearest Airco office.

Costs Come Down Under The Airco Plan

AIRCO

AIR REDUCTION

Offices in Principal Cities

Headquarters for Oxygen, Acetylene and Other Gases... Calcium Carbide... Gas Cutting Machines... Gas Welding Apparatus and Supplies... Arc Welders, Electrodes and Accessories

GOING ROUND-AND-ROUND ON BRAKE BEAM CLAIMS?

If so, come down to this:

With 195,000 A.S.F. Cast-Steel Unit Brake Beams now in service, there's *not a single case* on record of structural failure, or of maintenance due to normal wear. That's why these beams with *integral heads* are first, today, in sales.

A. A. R. Approved.
Certificate No. 54.

A·S·F CAST-STEEL UNIT BRAKE BEAM

The RAILROAD HOUR
NBC Every Monday Night

AMERICAN STEEL FOUNDRIES

MINT MARK OF FINE CAST STEEL

Taken at Dayton, Ohio

LIMA-HAMILTON SWITCHERS

...on the B&O

"We are pleased with the performance record of our Lima-Hamilton switchers. Maintenance costs to date have been quite satisfactory."

says the B & O

LIMA HAMILTON CORPORATION

LIMA LOCOMOTIVE WORKS **LIMA, OHIO**

A division of the Lima-Hamilton Corporation

BENDIX RADIO

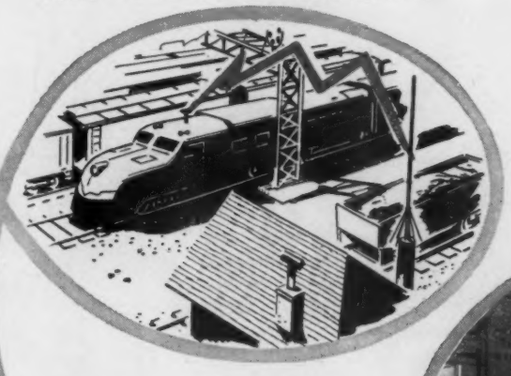
REG. U.S. PAT. OFF.

FIRST NAME IN RAILROAD RADIO

Saving Dollars for YOU... DAYS for Your Customers!

Compare the amazingly low cost of Bendix Radio equipment with the tremendous advantages it affords both you and your *customers*. When you look at it this way, its value as a business investment becomes apparent immediately—no other major improvement is so easy, yet costs so little. Installations on railroads all over the world have proven conclusively that Bendix Radio equipment will actually pay for itself in a matter of months—saving time and money in practically every railroading operation, through closer teamwork and efficiency between yard, train and traffic-control personnel. This added speed makes a valuable selling point with shippers, too. So, write in, get the facts and we feel sure you'll get Bendix Railroad Radio.

FIRST in end-to-end communication



FIRST in speeding yard operations

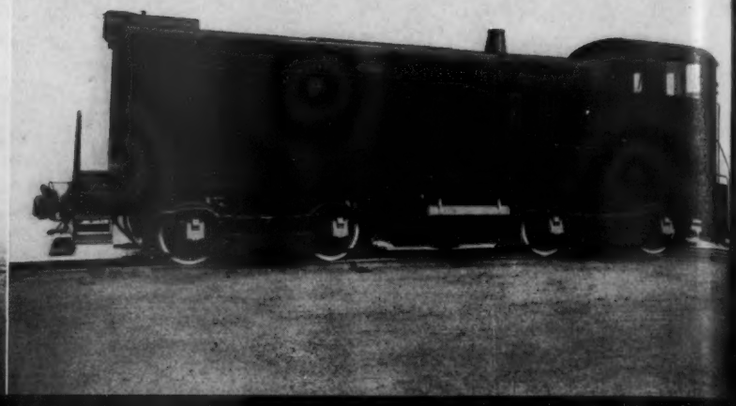
Freight Travels Faster with Bendix Radio

BENDIX RADIO DIVISION of Bendix AVIATION CORPORATION

BALTIMORE 4, MARYLAND

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

800-hp. Switching Locomotive.

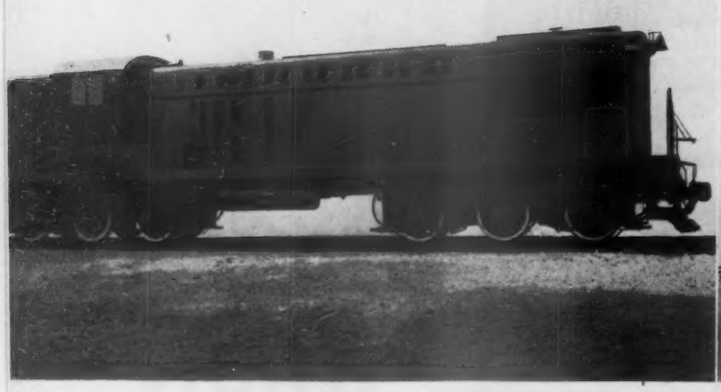


1200-hp. Switching Locomotive.

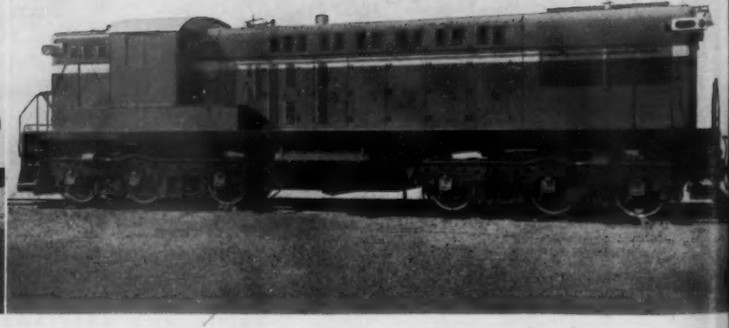
NEW

BALDWIN - Westinghouse

offers increased horsepower
attractive effort rat



1600-hp. All-service Locomotive, 6-wheel trucks, 4 traction motors.

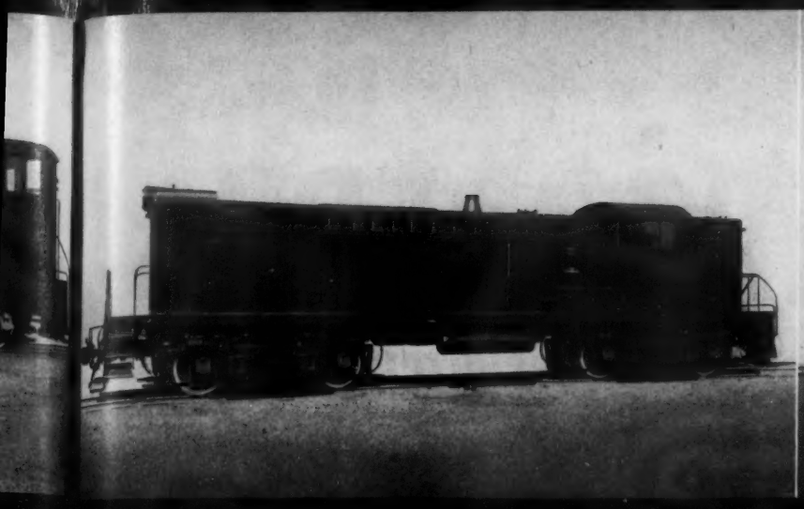


1600-hp. All-service Locomotive, 6-wheel trucks, 6 traction motors.

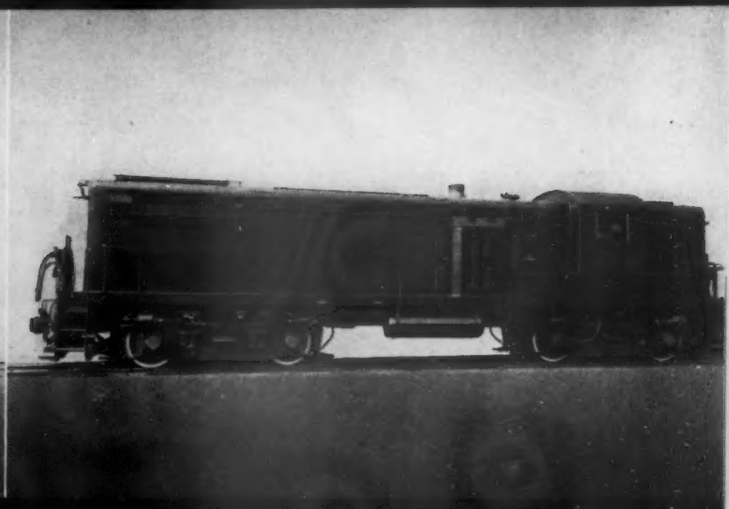
BLW THE BALDWIN GROUP

WESTINGHOUSE

BALDWIN - Westinghouse



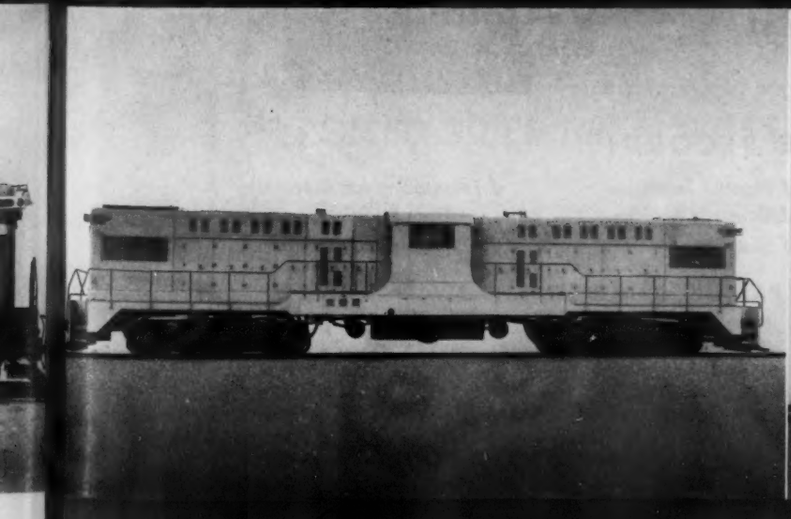
1200-hp. Road Switching Locomotive.



1600-hp. All-service Locomotive, 4-wheel trucks.

2400-hp. Road Transfer Locomotive.

6400-hp. Road Locomotive made up of four (4) 1600-hp. units.



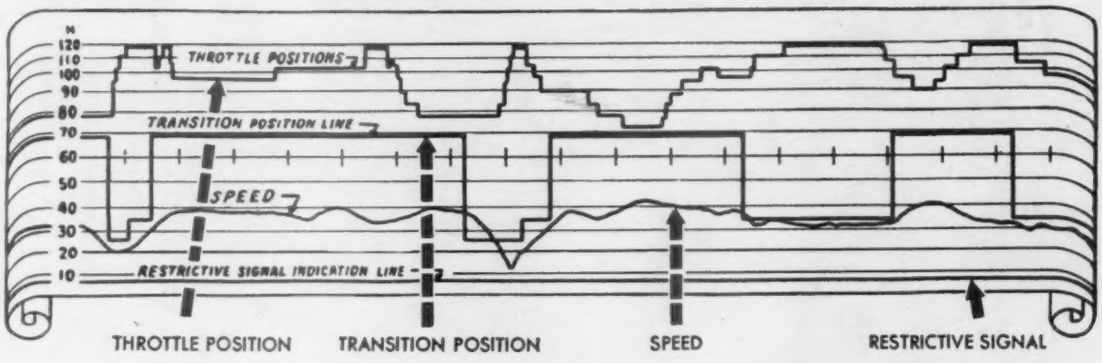
DIESEL-ELECTRIC LOCOMOTIVES

BARCO RECORDERS

PROTECT DIESEL LOCOMOTIVES AND SWITCHERS

GIVE MAXIMUM RETURNS

Here's the permanent record...



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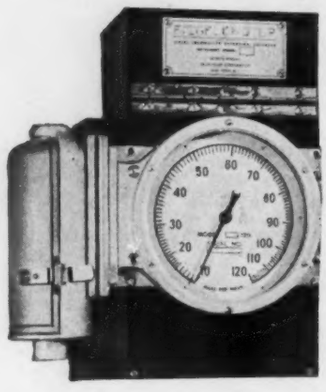

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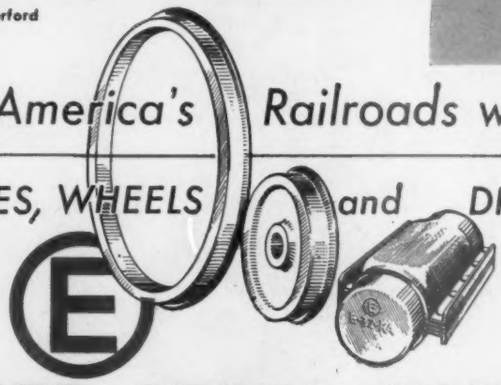

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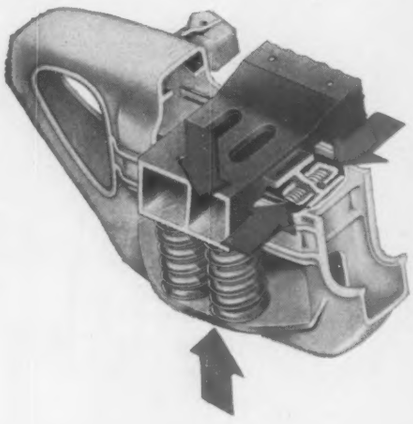

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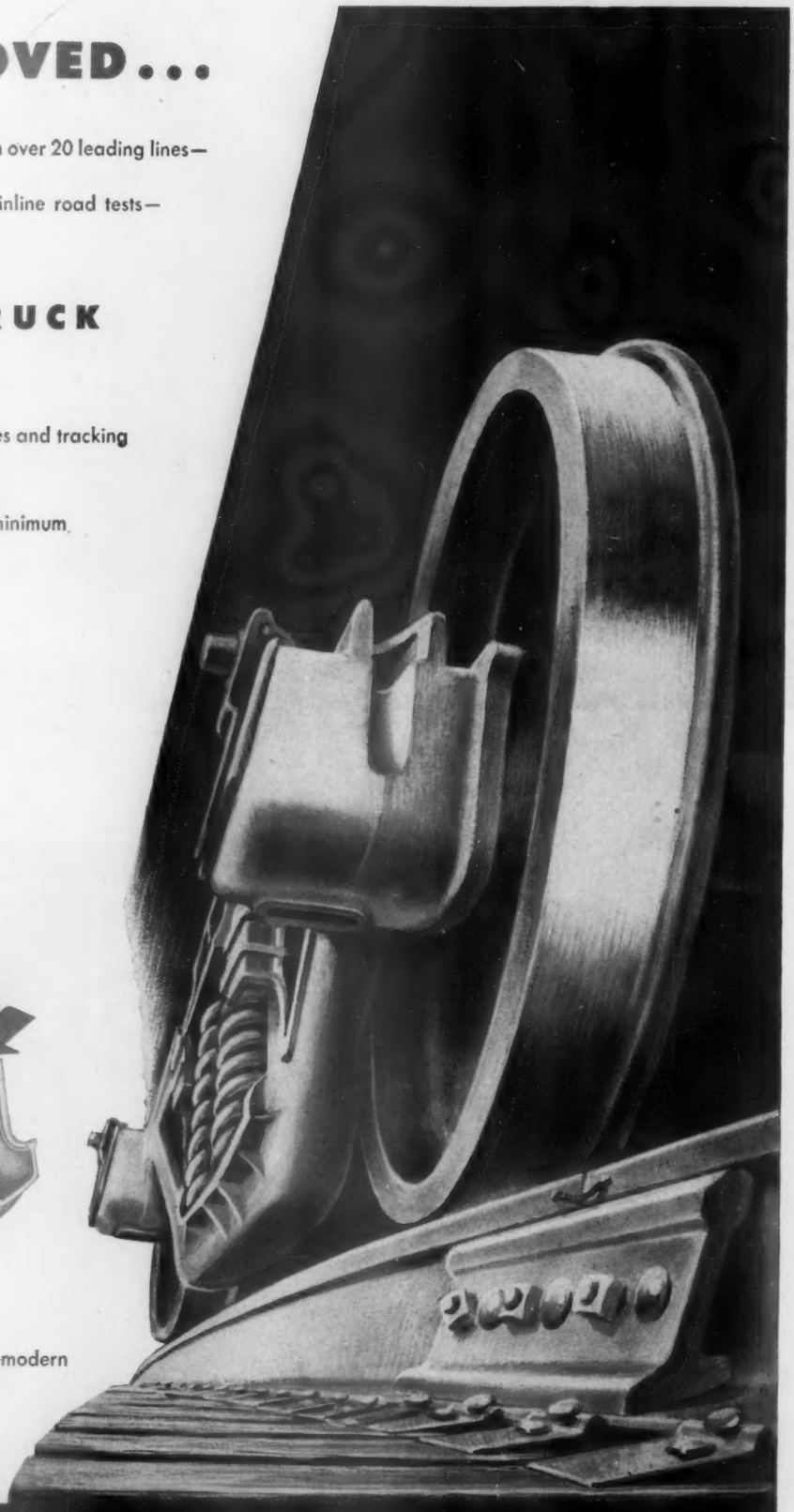

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RAILWAY AGE

EDITORIAL COMMENT

HOW CAN THE RAILROADS BE KEPT "READY" FOR EMERGENCIES?

In World War II the railroads made a wager in their public relations policy against what turned out to be long odds—and they won, magnificently. The winning theme will be remembered—it was, in substance, that in spite of all the poverty and consequent limited expenditure during the preceding decade, nevertheless the railroads were ready to move promptly and efficiently any traffic load the war might bring. Actually, the burden of war traffic grew to be far heavier than any previous estimates—but the plan of inter-railroad and shipper cooperation, developed under the leadership of the Car Service Division of the Association of American Railroads, also yielded a great deal more additional capacity than the most sanguine would have dared predict.

World War II Story

Not only did the railroads proclaim and demonstrate their readiness at the outset of World War II, but they ceased to complain against inequitable regulation and political favors extended to their rivals—discriminatory burdens which had so largely impoverished them during the Thirties. After all, the general sentiment ran, why complain about loss of traffic, however unjust or uneconomic, so long as, for the time being, both traffic and earnings were reasonably satisfactory? Plenty of railroad people foresaw that prewar competitive conditions would return after the war ended, but many also believed that increased wages and other costs of rival agencies of transport would favor the railroads.

Subsequent events proved this optimism ill-founded. The expense of providing railroad service, as it turned out, increased relatively more than that of providing competing service by truck or barge—for the simple reason that the increased cost of constructing and maintaining highways and waterways was not passed on to commercial users of these facilities. The greatly increased cost of constructing and maintaining waterways did not become an increased charge upon the users of the waterways—because they continued, and still continue, to pay nothing toward this expense. The greatly increased cost of constructing and maintaining highways did not become an increased charge upon operators of long-haul trucks—because these operators increased the loading of their trucks in far greater proportion than the nominal increases which were levied, in a few states, for commercial use of the highways.

All of the greatly increased cost of improving and maintaining railroads, however, fell directly on the railroads themselves—which had no alternative but to try

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to pass these increased charges along to shippers, with the result that after World War II more traffic was diverted to rival agencies of transportation than they ever handled before; and railway earnings declined to depression levels at a time of an unprecedented volume of peacetime production.

Now, once again, a traffic load born of military operations has poured down upon the railroads, with an attendant improvement in earnings. No one knows how long this traffic load may last—six months, a year, ten years.

One thing, however, may be confidently predicted; and that is that, when this military traffic does dry up, the railroads will once again be starved for traffic and earnings, as they have been for the past couple of years, *unless, meantime, the nation adopts a rational transportation policy which will give the railroads an opportunity to compete on equal terms for all the traffic to which they have a sound economic claim.*

The railroads, as it turned out, were "ready" for the huge military load of 1941-45, not because of any logical preparation in the way of increased capital outlays for additional facilities, but largely because what has sometimes been accurately called the "Gormley miracle" turned out to be even more miraculous than anyone suspected.

Which Policy is Wiser?

Would it be either truthful or prudent for the railroads again to proclaim themselves ready, without reservation, as they did accurately in 1941, for any load which present and future military operations may bring? Or would it be nearer to the facts—and hence a wiser public relations policy—to admit that the railroads' long-run earnings prospects, unless a rational transportation program is enacted, are too questionable to provide the credit needed for the sustained program of capital improvements on the railroads which is required in the national interest?

The people of this country have demonstrated, in times of peace and surplus transportation capacity, their lack of zeal for the political effort necessary to institute a rational national policy for transportation. If, in time of war, actual or impending, the railroads should take a long chance and insist upon how ready they are, then when will the time come that a rational transportation policy can be hoped for which will restore the railroads to sound status as private enterprise?

There is danger involved, of course, in admitting in a time of crisis that we wish there were more cars and other facilities available than there are. Maybe somebody will say—if the railroads should concede that they are not in perfect physical condition for any volume of traffic which may come their way—let's put some one in charge of them who will never confess to imperfection. On the other hand, how are the conditions which have resulted in apparent deficiencies going to be corrected if the deficiencies are denied and if no remedial measures are suggested?

If the railroads are able to be johnny-on-the-spot for all national emergencies—no matter how great, and no matter to what degree the industry is starved by politics in the years between wars—then why should any shipper or other citizen worry himself about establishing conditions which will enable the railroads to earn a living for themselves? There is no doubt about the ability of the railroads to produce wonderfully in times of stress—but, some time or other, the amount of work a horse can do must bear *some* relationship to how well he is fed.

AIR-CONDITIONING MISCONCEPTIONS

In spite of the notable accomplishment of railroads to date in air conditioning such a large proportion of passenger-carrying equipment, (roughly 75 per cent), there are still numerous mistaken ideas on the part of the public regarding what it wants and needs in the way of temperature control, and on the part of railroads regarding how they can best meet these needs. In other words, the variation in air temperature and humidity conducive to maximum bodily comfort in a passenger car vary so widely with outside conditions and the age, physical and psychological state of individuals that any single set of conditions selected is bound to be a compromise not entirely acceptable to all.

After having decided what temperatures are most generally desirable in car interiors, railroads are faced with the problem of providing: (1) equipment adequate for heating and cooling under the most adverse weather extremes; (2) effective and reliable controls; (3) cleaning and maintenance procedures which will keep the air fresh and the equipment functioning; and (4) suitable programs for instructing train crews in their duties as regards operation of the equipment.

Owing to the effective developments made by heating and air-conditioning supply manufacturers, technical problems associated with objectives (1) and (2) have largely been solved, and railroads have modern heating equipment and cooling units up to eight tons capacity per car available for installation, with controls which are reliable and eliminate most guess work and hand manipulation in operating the equipment. As for objectives (3) and (4), they are still in the realm of the future and need further intensive work.

Everyone knows that air-conditioning failures occur and occasion complaints often far more widespread and vociferous than circumstances warrant. Fred Gurley, president of the Atchison, Topeka & Santa Fe, in an address before the Coordinated Mechanical Associations at Chicago on September 18, urged mechanical supervisors to do everything possible to eliminate not only hot boxes in freight service, but hot passenger cars due to the failures of air-conditioning equipment.

Hardly less objectionable than a "hot" passenger car during the cooling season is one filled with stale air as a result of foul air-ducts or filters. This criticism is by no means voided by the fact that passengers may become used to the smell after a time and not notice it. In view of these conditions, it is doubly important that railroads institute maintenance practices which will assure not only maximum reliability in operation of air-conditioning equipment but delivery of desired amounts of clean, fresh air, suitably cooled.

One common misconception in connection with air-conditioning equipment is that train crews can do much about failures except report them. At the Car Department Officers' Association annual meeting in Chicago it was stated that trainmen can help air-conditioning service men greatly if they will leave a pencil notation in the electric control panel whenever there is a failure but not attempt to diagnose the trouble. In fact, the consensus was that the control panel should be locked except for an "on" and "off" switch, in order to prevent tampering which is almost sure to do more damage than good.

TRAFFIC PROMOTION WHEN TRAFFIC IS HEAVY?

With freight cars in short supply, and apprehension arising about the adequacy of passenger equipment to handle substantial increases in traffic, the dangerous temptation arises to curtail expenditures for traffic promotion and development. Railroad expenditures for such purposes are highlighted in a two-part article by Lawrence M. Hughes in the August 15 and September 1 issues of Sales Management magazine, in which he says:

"In 1949, 14 . . . large roads . . . had gross operating revenue of $5.074 billion. But for *all* traffic and sales efforts they spent only $106 million, or about 2 per cent. For the advertising part of sales efforts — including not only space and time but calendars, timetables and salaries — the 14 spent only $14.42 million, or less than *3/10ths of 1 per cent*. On the other hand, to build gross revenues of $371 million last year, the Big Four air lines spent for traffic or sales a total of $45.5 million, or more than 12 per cent. For advertising they spent $10.6 million, or about 3 per cent — 10 times as much, proportionately, as the railroads . . . .

"Although combined operating income of all domestic air lines, including non-scheduled lines, was only about 6 per cent of that of all 132 Class I railroads, all domestic air lines are estimated to have spent almost as much for advertising — nearly $20 million as against $22 million. . . . Four of [the air lines] have managed to move ahead of all but two of the railroads in *total* passenger sales volume."

While an industry which gets its terminals and traffic-control provided by the taxpayers obviously has a larger share of its gross revenues left to devote to promotion than the wholly self-supporting railroads have, Mr. Hughes does the railroads no disservice by calling attention to their relatively modest outlays for advertising and promotion. A competitive business has to advertise and promote itself in every effective way it can, if it is to hold its own against rivals which make generous expenditures for this purpose.

If additional traffic cannot be handled, temporarily, then railroad advertising may be held to an "institutional" rather than a "promotional" theme, for the time being, but, some time or another, the traffic will be needed and the public ought not to be allowed in the meantime to forget the railroads' continuing service. For that matter, the period when the railroads are not under the immediate necessity of seeking additional traffic gives them an excellent opportunity to use their advertising to call attention to the legislative and regulatory changes necessary to make possible continued improvements in railroad service "for the long pull." There is, indeed, no time when farsighted advertising and sales efforts can be safely or appropriately omitted. In bad times, such effort is needed to attract all the volume possible. In good times, it is needed to build acceptance for the active sales messages which, sooner or later, will be necessary.

CONSOLIDATED CONTROL OF INTERLOCKINGS

Modern developments in apparatus for controlling train movements have made it practicable to consolidate the controls of what were previously two or more interlockings, thereby facilitating train operations and reducing operating expenses.

In one instance, the construction of a yard involved three new junctions and changes in train operation at seven previously existing junctions, all within an area about eight miles long and two miles wide. All the power switches and signals which form interlockings at five of these junctions are controlled from one centrally located modern interlocking machine. At a later date, when the old mechanical interlockings at some of the other junctions are replaced by new power switch machines and signals, these too can be controlled from the new central control machine. The new project now includes controls by which train movements throughout the area are authorized by signal indications without need for train orders. Thus, train operations through this area are coordinated; stops and delays are minimized.

Another railroad has adopted a program in which all of the 15 major interlockings on an entire division—mostly double track—are to be controlled from one point. The first step of this project includes six of these plants, four of which have already been changed over to control from the central office. The project includes controls for authorizing train movements by signal indication throughout the entire division.

Thus, either in an extensive terminal area or throughout an extended division mileage, the consolidation of the control of interlockings is practicable, and is more than compensating for the cost by reducing operating expenses and accelerating train movement.

British Build Gas-Turbine Locomotive

Net turbine output 2,500 hp.—Spring-suspended motors drive outer axles of six-wheel trucks through quills

By E. C. POULTNEY
Member, Institution of Locomotive Engineers

Shortly after the termination of the war, the management of the former Great Western Railway (now Western Region, British Railways) turned to the consideration of gas turbines for railway traction, prompted by the development of aircraft jet engines and the encouraging performance of a locomotive of this type built in Switzerland by Brown-Boveri at Baden. As a result of inquiries regarding the behavior of the gas-turbine locomotive, an order for a similar type of engine was placed with the Swiss firm through British Brown-Boveri, London, in 1946. Simultaneously with the placing of this order, tentative arrangements were made for the Great Western, in conjunction with the Metropolitan Vickers Electrical Company, Manchester, to design and build a British gas-turbine locomotive. This will be more powerful than the Swiss locomotive, and its construction is now well advanced.

The first locomotive, No. 18000, which underwent preliminary trials during the spring, has a length of 63 ft. overall and weighs, in working order, 258,048 lbs. The continuous net output of the turbine at the generator coupling is 2,500 hp., and the locomotive carries sufficient fuel for a 250-mile run.

The maximum tractive force available from starting up to about 21 miles an hour is 31,500 lb. and the maximum speed is 90 miles an hour. The gas turbine and the electrical equipment were manufactured by Brown-Boveri, Baden, and the mechanical parts by the Swiss Locomotive & Machine Works, Winterhur, Switzerland.

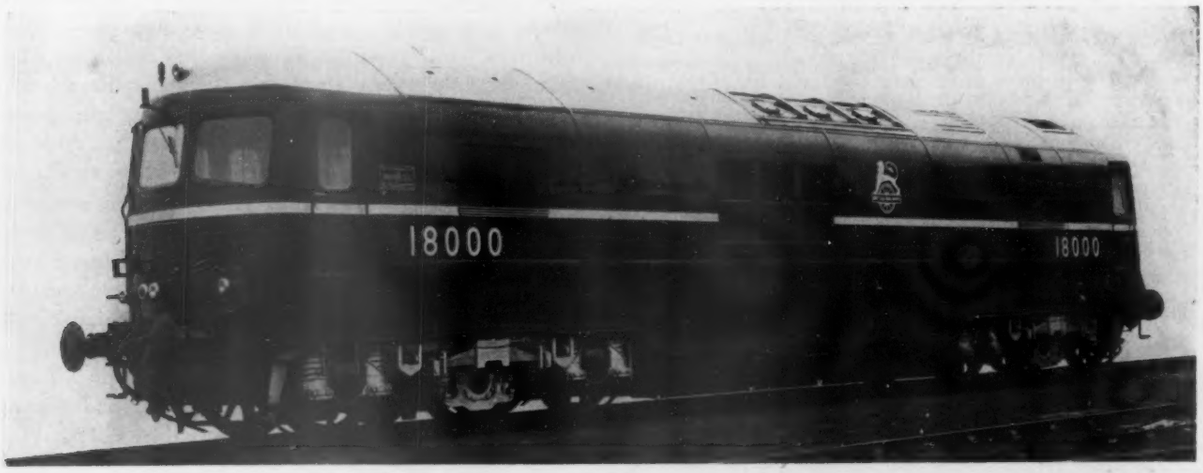
The general appearance of the locomotive is shown in the illustration.

The design, which is double-ended with two identical cabs giving unobstructed lookout, is of the A1A-A1A type, and the power unit, consisting of gas turbine, compressor, heat exchanger and geared generator assembled on an auxiliary frame, takes up the larger part of the machine room, which is partially divided by the air intakes to the compressor.

At the combustion-chamber end is an auxiliary Diesel generator set, the train heating boiler and one of the traction-motor fans. The other fan is placed at the generator end, with two exhauster-compressor sets for the brakes, one mechanically driven from the main power unit and the other by an electric motor. The Diesel-operated auxiliary generator provides current for all the auxiliaries and is powerful enough to supply current to two of the four traction motors for working the locomotive when running light from the engine shed to the train. Fuel oil, lubricating oil and water are carried partially in the roof and partially in the middle section of the main framing.

The Power Trucks

The locomotive has two six-wheel trucks, each having a wheel base of 11 ft. 9¾ in. and spaced at 38-ft. ¾-in. centers. The outer wheel pairs of each truck are the drivers. Each of these axles is geared through the me-



The British Railways 2,500-hp. gas-turbine locomotive

One of the four-wheel trucks showing the traction motors, the springs on which the locomotive is supported, and the center-pin socket through which the traction and braking reactions are transmitted

dium of a quill drive to one of the four traction motors. The drive on each axle is taken at one side, and the two drives for each truck are at opposite corners of the framing. The main frames are of box section, of high-grade steel welded throughout. The frame rests on the journal boxes, fitted with SKF roller bearings, through helical springs. Friction damping devices counteract any vertical oscillations. These are adjustable.

The driving axles are held laterally on the driving side only, the outer race of the roller bearing being held between the covers of the bearing. On the other side the roller bearing is allowed a certain amount of side play. The center axle for the carrying wheels is allowed lateral play. The body of the locomotive rests on each side, through side bearings, on two parallel inverted semi-elliptic springs, one inside and one outside the truck frame. The supports transferring the load are lodged in buckets formed in one piece with the spring bands. The spring bands and, consequently, the springs are made to move integrally with the truck frames by means of links, pin-jointed to the bands and the frame. The ends of the two springs forming the pair on each side are connected by transverse equalizers, which transmit their load to the truck frame through inclined spring hangers. The equalizers at each end of the two pairs of springs are cross-connected by a beam which causes the four springs to act together as a swing bolster.

The transmission of the tractive and braking forces is taken by a center member, to which the body underframe is pivoted. This is linked, forward on one side and backward on the other, with the main frame of the truck, and lateral links tie it to the cross-beams which give the bolster lateral stability. This arrangement permits relative transverse movement of the bolster as a whole and the truck framing, and allows for vertical movement of the pivot with respect to the transverse spring equalizers.

The Quill Drive

The transmission of the driving torque is accomplished by a quill drive consisting of a disc with eight spider arms pressed on the axle. These arms press on spring caps to form the coupling between the large gear wheel and the driving axle. The coupling springs are compressed when relative movement occurs between the carrier arms and the gear wheel. The main gears are of the single-reduction type. The pinion is on the traction-motor shaft and the larger wheel on the quill stump, mounted in bearings fixed to the motor body. The main axle passes through the quill stump with sufficient clearance to allow for the relative movements of the axle and truck frame. The whole gear assembly is protected by a closely fitting gear case, and provision is made for effective oil lubrication of the gears.

The Gas-Turbine Power Unit

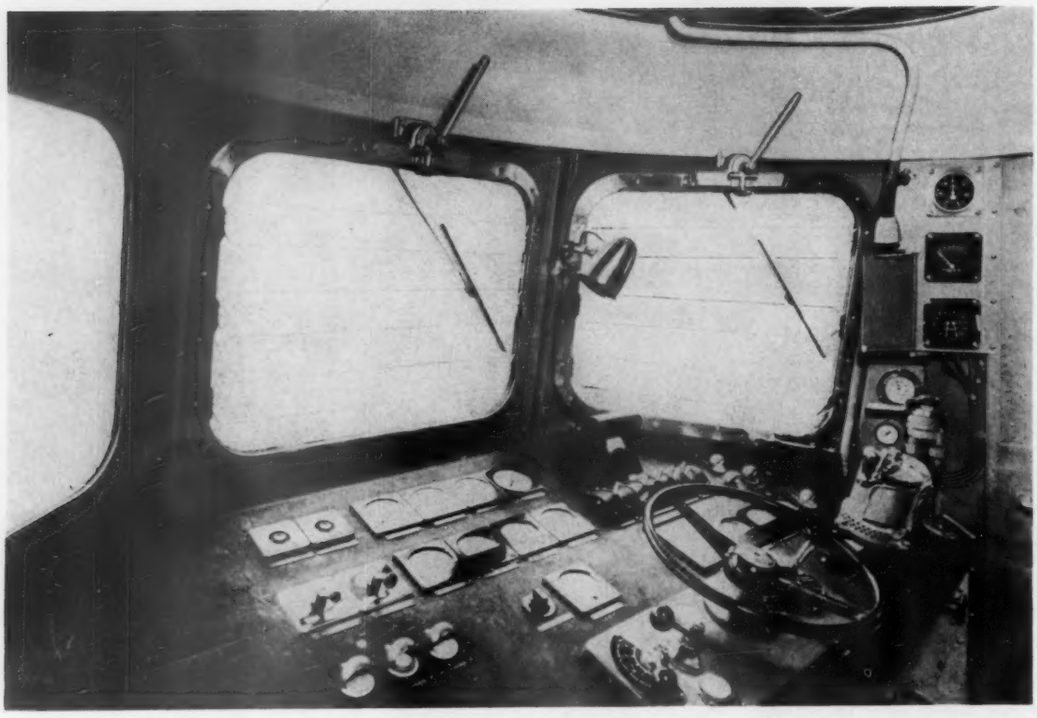
A single-stage open-cycle gas turbine using oil as fuel, complete with heat exchanger, comprises the power unit. The inlet for air supply to the compressor is by way of openings symmetrically placed in the sides of the locomotive cab, connecting with ducts leading to the compressor. The multi-stage axial flow compressor, of cast steel, rests on an auxiliary frame which also carries the turbine and the generator, driven through single-reduction gearing of the helical type. The exhaust gases from

DATA ON TURBINE POWER UNIT UNDER FULL LOAD CONDITIONS

Compressor delivery pressure, lb. per sq. in.	36
Gas turbine inlet temperature, deg. F.	1,110
Temperature of exhaust to atmosphere, deg. F. (approx.)	480
Gas turbine and compressor speed, r.p.m.	5,800
Gear ratio	6.6 to 1
Generator speed, r.p.m.	875
Input at generator coupling, hp.	2,500
Overall thermal efficient, per cent	16.9
Corresponding fuel consumption, lb. per hp. hr.	0.87

PRINCIPAL DIMENSIONS AND WEIGHTS OF THE 2,500-HP. GAS-TURBINE LOCOMOTIVE FOR THE BRITISH RAILWAYS

Gage, ft.-in.	4-8½
Length over buffers, ft.-in.	63-0
Maximum height from rails, ft.-in.	13-4
Diameter of driving wheels, in.	48½
Diameter of carrying wheels, in.	38
Continuous rating of gas-turbine unit, hp.	2,500
Tractive force at wheels, lb. (up to about 21 m.p.h.)	31,500
Continuous tractive force, lb.:	
At 64 m.p.h.	12,400
At 90 m.p.h.	8,400
Maximum speed, m.p.h.	90
Number of driving axles and traction motors	4
Weight in working order, lb.	258,048
Adhesive weight, lb.	174,048
Factor of adhesion	5.5
Rating of auxiliary Diesel generator set:	
Continuous rating 40 kw. at 100 volts, 1,150 r.p.m.	
Maximum working speed, r.p.m.	1,500



Instruments and controls in the engineman's cab

the turbine escape through roof louvers after passing through the heat exchanger, preheating the compressed air on its way to the combustion chamber. The compressed air is used for the combustion of the fuel oil, though by far the larger part serves to cool the side walls of the combustion chamber and reduce the gas temperature at the turbine inlet.

The fuel oil is delivered by a separate pump and sprayed into the combustion chamber by a single injection nozzle. Combustion air is admitted to the fuel spray through swirl vanes in the top of the combustion chamber. The fuel oil is preheated to obtain good atomization. For starting purposes, the flame in the combustion chamber is ignited by an electrically heated element.

The turbine and the compressor are each supported on two journal bearings. The compressor end bearing is designed to take journal and axial thrust loads. Oil under pressure is used for lubrication.

The main technical data for the turbine power unit under full load conditions are shown in a table.

When starting the gas-turbine power unit, the auxiliary Diesel generator set can supply current to the main generator, which, acting then as a motor, rotates the turbine rotor.

The Electrical Equipment

In order to obtain the characteristics required for traction purposes, the main generator is equipped with three interacting excitation windings; namely, a counter-compound winding, a shunt winding, and a separately exciting winding. The latter is fed by the auxiliary Diesel-driven generator. The main generator is a self-ventilating multipolar machine with commutating poles and compensating windings.

The rotor carrying the electrically and magnetically active part of the armature is a hollow-steel casting. At the driving end the armature shaft is constructed so as to form a flange, which is bolted to the flange of the reduction gear so that at this end the armature is supported by the reduction gear bearing. The generator, itself, has only one bearing at the commutator end and this is of the journal type.

The commutator is bolted to the hollow armature shaft. The brushes are carried in removable arms, and the brush gear can be rotated.

The ratings of the generator are: continuous, 2,340 amp. at about 675 volts; one-hour, 2,640 amp. at about 760 volts; maximum working voltage, 760; maximum working speed, 875 r.p.m.

Traction Motors

Because of the use of quill drive, the traction motors are securely fitted to the truck framing, and their weight, therefore, is entirely spring borne. They are of the series-wound type and have forced ventilation. The motor frames are of cast steel, containing six main poles and six auxiliary poles.

Roller bearings are used for the armature shaft. Six brush carriers each carry two brushes and are supported by a ring, which can be turned to allow access to the brushes through an opening below the motor.

The Auxiliary Generator

The auxiliary generator is driven by a Saurer Diesel six-cylinder, four-stroke engine, and its construction is similar to that of the main generator. It is of the multipolar type having counter-compound and starting windings.

The rating of the machine is: continuous 40 kw..

100 volts, 1,150 r.p.m.; maximum working speed, 1,500 r.p.m.

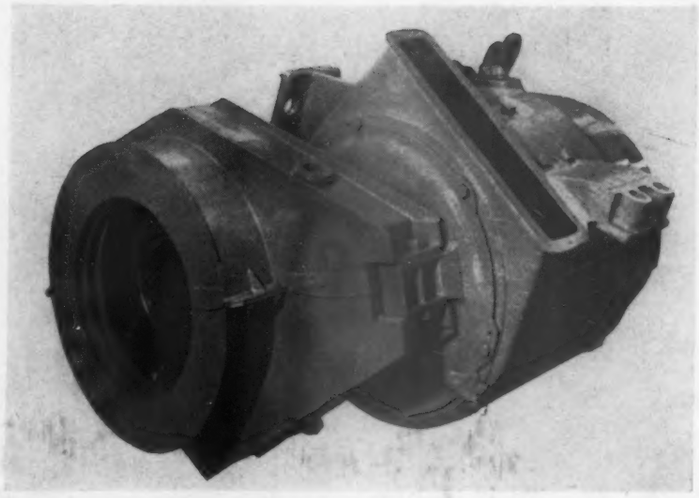
A storage battery serves to start the auxiliary Diesel-driven generator and to supply controls and circuits which are to be operated without the Diesel set running. It has 54 cells and a capacity of 200 amp. hrs.

The auxiliary equipment of the locomotive comprises the following:

(1) Voltage converter set, consisting of a motor and generator supplying current for the control of the lighting circuits. This has an automatic voltage control.

(2) Oil pump maintaining oil pressure in the hydraulic system of the locomotive as well as lubricating the bearings of the power unit until the speed of the latter is sufficient for the direct-driven lubricating pump to function.

(3) Cooling-oil pump, supplying oil to the gas-turbine bearings after shutting down to remove the heat conducted by the hot turbine. This starts automatically when the turbine is shut down and is also automatically stopped when the turbine has cooled.



The truck-frame-mounted traction motor and gear case showing the ventilating air intake

(4) Pumps for light and heavy oil. These deliver fuel to the combustion chamber under pressure to the burner nozzle. The light oil is used in the turbine during the starting-up period until the heavy oil is sufficiently heated for use.

(5) Automatic barring gear. The object of this gear is to turn the shaft of the gas turbine through 180 deg. at intervals, after it has been shut down, in order to avoid temporary deflection of the shaft while it is hot. The gear is automatically controlled by a time switch.

(6) Motor-driven compressor-exhauster set. The exhauster produces the vacuum for the automatic vacuum brake for the train, and the compressor is for the air brake acting on the locomotive. An electrically driven set is specially provided to supply air for the locomotive brake when the gas turbine is shut down and the locomotive running light on the Diesel set, and to boost the creation of a vacuum for the quick release of the train brakes. It may be switched on automatically for this purpose when the engineman's brake handle is placed in the brake-release position.

(7) Train heating plant. For this purpose a Clarkson boiler is provided. It has a capacity of 1,000 lb. per hour and is fired by the light fuel oil.

The equipment in the two cabs is identical, and comprises an engineman's desk with instruments and controls. The engineman's seat is on the right-hand side. In normal service the main hand wheel need only be operated and, when required, the handle for the brake applying the air brake on the locomotive and the vacuum brake on the train. A speed indicator shows the locomotive speed in miles an hour. The cab has indirect lighting, which can be dimmed as desired, and it is heated by electric heaters.

The main control starts the train and governs its subsequent speed, acting through the governing system. Each notch of the main controller corresponds to a certain power of the gas turbine, this being determined by the turbine speed and fuel supply.

The governing system, automatically controlled, is such that for any position of the main controller, equilibrium conditions are maintained between the power demand of the traction motors and the output of the main generator.

New Book . . .

RAILROAD INSPECTION MANUAL—MAGNAFLUX AND ZYGLO, edited by W. E. Thomas; first edition. 80 pages, 57 illustrations. 9 in. by 6 in. Bound in heavy paper. Published by the Magnaflux Corporation, Chicago 31. Price $3.

This manual is intended for the guidance of railroad mechanical officers and those responsible for parts inspection on the railroads. It is prepared to furnish specific information on detail procedures to carry out the most rapid and effective inspection for location of cracks and similar defects in order to avoid failure of parts in service.

Section 1 of the manual covers the fundamentals of the inspection methods, as applied to railroad problems. This includes seven chapters on theory of magnetization, methods, equipment, demagnetization, records, marking, glossary of terms and operating instructions.

Section 2 covers specific details on what to inspect and how to inspect it, with a separate illustrated page for each critical part, specific details on cracks to be expected in each part, and operating details to properly inspect that part. The detail inspection portion includes only the Diesel section completed to date. Remaining sections are now in preparation and will be issued to holders of the manual when complete, to cover (1) steam locomotives, (2) cars, (3) axles and wheels, (4) track, tools, and maintenance equipment, and (5) welds and castings. Provision is made in binding the manual for the loose-leaf addition of these sections, or other added or corrected sections in the future, to serve as a continually revised up-to-date working manual.

Low fares, good equipment and right scheduling—plus good scenery and extra big windows through which to see it—brought the "Shasta" an average load of 408 revenue passengers each day each way during its first year of service

Checklist for Success—"Shasta Daylight"

Southern Pacific's 718-mile daylight run founded on reduced fares, good equipment and right schedules

Shasta Daylight" service was one year old on July 10. The Southern Pacific's two 15-car trains, providing a daylight run in each direction over the 718 miles between San Francisco (by ferry from Oakland) and Portland, Ore., carried an average load of 408 revenue passengers (including children) in each direction during their first year of service. During the first nine days of July, 1950, the average load southbound was 555 and, northbound, 502.

On and offs accounted for the fact that an all-reserved seat train, with a total availability of 420 coach and 22 parlor car seats, was able to accommodate a record load of 611 passengers on July 9.

The Southern Pacific considers the "Shastas" a success. It believes the train gets into this happy category because its service meets the prescription for winning patronage. System Passenger Traffic Vice-President Claude E. Peterson is quick to point out that the "Shasta's" combination of natural circumstances do not attend every run — or even every railroad — in the country. Without them even "Shasta" service and equipment probably would not bring in the bacon.

On the other hand, he stresses his belief that, given the necessary natural factors, the railroad can cash in on them only with a three point combination of (1) right equipment, (2) right schedule, and (3) right fare. Neglect any of these three, he warns, and an expensive outpouring of funds may prove utterly unremunerative.

Another "success angle" on the management side of the "Shasta" is the reduction in train-miles which it was possible to make when the new train was inaugurated. Because of its large seating capacity the "Shasta" has been able to take over the work of two pairs of secondary trains operating between California and Portland, thereby resulting in a substantial saving in train-miles, while at the same time providing a superior service.

Here is how the Shasta meets the prescription for winning patronage to the rails:

Heavy Contributory Population at Each End of Run: Population of San Francisco and the Oakland East Bay area in the 1950 census was 1,792,521; Portland hit 371,011. Add to these figures good connections with Los Angeles on the south, and with Tacoma and Seattle on the north. On the other hand, except for the first hundred miles at each end of the run, the Shasta territory is sparsely settled and, of itself, generates comparatively little business.

Sufficient Distance: The S.P. believes that, except in congested areas, it is difficult to pull people out of their automobiles for distances much under 200 miles. Furthermore, distance is needed to give expensive equipment good utilization and bring revenues to a point where they absorb high terminal costs. As noted, the "Shasta Daylight" makes a run of 718 miles in each direction.

Really Fine Equipment: The S.P. is proud of the equipment on the "Shasta." Concurrent with the introduction of the train a year ago, it gave wide distribution to a handy, pocket-size card titled "The Shasta Story" (reproduced herewith) which describes that equipment. (*Railway Age* told the detailed story in the issue of July 16, 1949, page 50.) The road believes it showed good business judgment in stressing visibility in all cars on the train, with oversize windows in the revenue cars and design encouraging to window gazing in diners and taverns. The Cascade mountain country deserves special attention. In August, 1949, 24 per cent of the passengers replying to a questionnaire said that the good scenery and the means with which to see it were the chief reasons why they rode the "Shasta" instead of a bus, a plane, or their own car. (See Table 2.)

A Train Is a Train

One consideration the road stresses: For runs like this, management should buy a *train* — not just a fleet of cars and locomotives. The decor of the equipment ought to have a unified theme, stressing the character of the region it serves. Once established the train should normally be operated without the addition of out-of-harmony equipment. To date the S.P. has refrained from adding head-end or passenger-carrying cars to the original standard 15-car consist of the "Shasta." Its view is that a train with a passenger-seating capacity of 442 is in itself a gesture of optimism. If, on isolated peak days, more people seek to travel than can be provided space, the S.P. can only point to other trains on the same route — unless, of course, an extra section of conventional equipment is warranted. As in "show business," it is better to turn them away than to spoil the show.

Attractive Fares: Less-than-standard fares have applied on the "Shasta" from the first day of operation. A special one-way coach fare of $12 flat (excluding tax), works out to about 1.7 cents a mile, compared with the basic standard one-way rate of 2.5 cents in western and southern territories and 3.375 cents in the East. Even lower is the special round-trip coach rate of $21.60, or about 1.5 cents a mile, with a return limit of 18 days. For the 22 parlor car seats on the "Shasta" there have been established special rates which cover both the rail and seat charge in one ticket. These are considerably less than the sum of first class rail rate plus parlor car seat charge.

The "Shasta's" special rates were designed to attract patronage from competing agencies. The one-way bus fare between San Francisco and Portland was $10.25 at the time the train was put on with its one-way coach fare of $12. The bus fare has since been reduced to $9 one-way, $14.95 round trip. How the "Shasta" fares stack up with basic railroad fares and with the existing fares of planes and buses is shown in Table 1.

Subsequent quotations of special low coach fares by the pool lines between Portland and Seattle and by the Great Northern between the latter and Vancouver, B. C. —added to bargain fares long in effect on the S.P. between San Francisco and Los Angeles and on the Santa Fe from the latter point to San Diego — make it possible for coach passengers to enjoy fast service on daylight streamliners at a considerable reduction below basic fares along the entire West Coast, from San Diego to British Columbia. Perhaps it is significant that, in each instance, these fare reductions could be made without disturbance of the basic fare structure for east-west traffic and without the necessity for concurrence of competitors, since each segment of the service is either served exclusively or by long-established pool arrangements.

In this connection it should be explained that the S.P. does not believe that salvation for railroad passenger traffic lies necessarily in widespread rate cuts. With regard to unit costs of operation, present basic fares are too *low*, if anything. It does not suggest that similar fare reductions will work in other parts of the country. But it does know that to get the volume it needed to make

TABLE 1—"SHASTA DAYLIGHT" FARES COMPARED

(San Francisco - Portland)
(excluding federal tax)

"Shasta" coach one-way	$12.00
Basic coach one-way	18.58
"Shasta" coach round-trip	21.60
Basic coach round-trip	33.45
"Shasta" parlor car, o.w.	21.00
Basic first class, o.w., plus lower	33.17
"Shasta" parlor car, r.t.	31.50
First class, r.t., plus lower	57.70
Competing bus, o.w.	9.00
Competing bus, r.t.	14.95
Air-standard, o.w.	34.15
Air-standard, r.t.	64.90
Air-coach, o.w.	22.40
Air-coach, r.t. (X 2)	44.80

TABLE 2—WHY THEY RIDE THE "SHASTA DAYLIGHT"

Percentage distribution of answers to questionnaires by riders

Question Detail	Aug. Test 14 trips	Midwinter Test 5 trips
How did you happen to choose the "SHASTA DAYLIGHT"?		
I liked the schedule	27.6	31.2
Because the fare is low	17.9	14.0
To see the scenery	24.3	18.6
Wanted to ride a new train	18.9	10.8
Have used "SHASTA DAYLIGHT" before	No data	11.8
I liked your other DAYLIGHTS	11.3	10.2
No answer	No data	3.4
If there had been no "SHASTA DAYLIGHT" would you have:		
Taken another train	49.4	55.6
Used a highway bus	9.4	6.6
Used private automobile	10.7	8.6
Would not have made the trip	13.5	6.4
Used air line service	17.0	17.4
No answer	No data	5.4
How did you learn about the "SHASTA DAYLIGHT"?		
From some form of advertising	59.9	28.6
From a railroad agent or employee	18.7	21.1
A friend recommended it	21.4	29.7
Have used it previously	No data	15.6
No answer	No data	5.0
What is the reason for your trip?		
Business trip	10.6	34.4
Purely a vacation trip	83.1	18.9
Visit friends or relatives	6.3	30.8
This is an emergency trip		13.4
No answer	No data	2.5

the "Shasta" a going concern, it had to put in lower fares.

An important point is that the "Shasta" fares are highly *selective* with regard to points of applicability. They are quoted specifically between San Francisco and Oakland, on the one hand, and Portland. The same *pro rata* rate is not offered to intermediate passengers, except that the special San Francisco-Portland rate, *in toto*, is blanketed back on the north to Eugene, Ore., 124 miles south of Portland, and on the south, to Redding, Cal., 236 miles from San Francisco, at which points it coincides with the fare built up on the basic mileage rate

THE SHASTA DAYLIGHT STORY

EQUIPMENT

- 6,000 Horsepower Diesel-Electric Loco.
- 1 Baggage Postal Car
- 9 Chair Cars
  - 7 Seating 48
  - 1 Seating 46
  - 1 Seating 38
- 1 Parlor Observation Car—22 Seats
- 1 Tavern Car—54 Seats
- Triple Unit Comprising
  - Coffee Shop—66 Seats
  - Kitchen
  - Dining Car—66 Seats
- 15-Car Total
- Capacity—442 Passengers
- Total Cost of Equipment (both trains) $5,000,000

SPECIAL FEATURES

- **Picture Windows that "Breathe"** 6 Inches taller and wider than ordinary train windows. "Breather" sash keeps them free from fogging at all times.
- **Dreamliner Seats** New "hammock" suspension in seat and back. Center arm rests. Individually adjustable for recline Foam rubber cushions
- **Zone Heating** Keeps cars at same temperature throughout. Pressurized air conditioning excludes all dirt, dust and drafts.
- **Feather Touch Doors** Open and close automatically.
- **Radio and Public Address Systems** Includes FM radio for noiseless reception. Loudspeakers in every car
- **Fluorescent Lighted Throughout** New glare-reducing lighting fixtures
- **Electric Water Coolers in Every Car**
- **Baggage Elevators**
- **Anti-Wheel Slip Devices** All cars are provided with the latest safety devices to reduce the hazard of sliding wheels.

SCHEDULE

Northbound No. 10			Southbound No. 9	CHAIR CAR 1 Way	CHAIR CAR R.T.	PARLOR CAR 1 Way	PARLOR CAR R.T.
7:45 AM	Lv	San Francisco Ar	11:15 PM	$12.00	$21.60	$21.00	$31.50
8:10 AM	Lv	Oakland Pier Ar	10:45 PM	12.00	21.60	21.00	31.50
8:17 AM	Lv	Oakland, 16th St. Ar	10:36 PM	12.00	21.60	21.00	31.50
8:25 AM	Lv	Berkeley Ar	10:26 PM	12.00	21.60	21.00	31.50
9:05 AM	Lv	Martinez Lv	9:51 PM	12.00	21.60	20.50	30.75
9:53 AM	Lv	Davis Lv	9:06 PM	12.00	21.60	19.00	28.50
11:43 AM	Lv	Gerber Lv	7:18 PM	12.00	21.60	.....	.....
12:29 PM	Lv	Redding Lv	6:28 PM	12.00	21.60	14.50	24.20
2:04 PM	Lv	Dunsmuir Lv	5:00 PM	11.28	20.35	13.00	21.70
4:41 PM	Lv	Klamath Falls Lv	2:23 PM	8.24	14.85	9.50	15.85
8:43 PM	Lv	Eugene Lv	10:16 AM	3.11	5.60	2.75	4.25
9:26 PM	Lv	Albany Lv	9:31 AM	2.03	3.45	2.50	4.20
9:56 PM	Lv	Salem Lv	9:00 AM	1.34	2.45	1.40	2.70
11:15 PM	Ar	Portland Lv	7:45 AM	.....	.....	.....	.....

Tax extra

Information card distributed when train was placed in service (Caution: schedule shown has since been changed at a number of intermediate points)

Please check (✓) your answers.

How did you happen to choose the SHASTA DAYLIGHT for this trip?

I like the DAYLIGHT schedule ..... 1. _____ (1)
Because the fare is low ..... 2. _____
To see the scenery ..... 3. _____
I wanted to ride a new train ..... 4. _____
I have used the SHASTA DAYLIGHT before and liked it ..... 5. _____
I have used your other DAYLIGHTS and liked them ..... 6. _____

If there had been no SHASTA DAYLIGHT would you have:
(Please check the one most likely)

Taken another train ..... 1. _____ (2)
Used highway bus service ..... 2. _____
Used a private automobile ..... 3. _____
I would not have made the trip ..... 4. _____
Used airline service ..... 5. _____

Will you take the SHASTA DAYLIGHT on future trips? ..... Yes 1. _____ (3)
If "No", will you please say why? _____ No 2. _____

Have you eaten, or do you intend to eat on the train? ..... Yes 1. _____ (4)
No 2. _____
If you have had any meals, did you use: The COFFEE SHOP? 1. _____ (5)
The DINING CAR? 2. _____

Concerning our food service:

Did you feel that prices were too high? ..... Yes 1. _____ No 2. _____ (6)
Do you consider you were served courteously? Yes 1. _____ No 2. _____
Was the service reasonably prompt? ..... Yes 1. _____ No 2. _____
Did you consider the food satisfactory? ..... Yes 1. _____ No 2. _____
Did the service compare favorably with other hotel, restaurant or railroad service experienced? Yes 1. _____ No 2. _____

How did you learn about the SHASTA DAYLIGHT?

From some form of advertising ..... 1. _____ (11)
Heard about it from a railroad agent or employe ..... 2. _____
An acquaintance or friend recommended it ..... 3. _____
Have used it previously ..... 4. _____

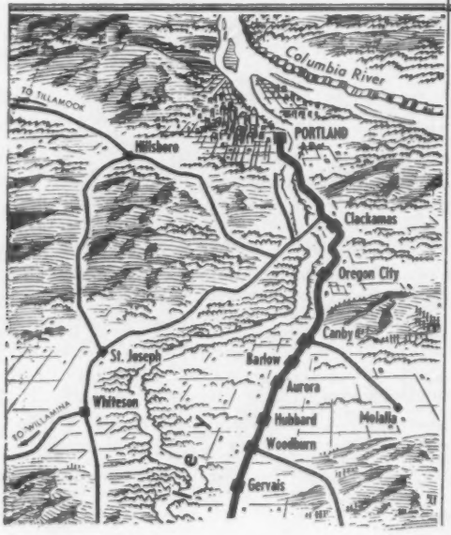
Would you care to indicate the reason for your trip?

This is a business trip ..... 1. _____ (12)
It is purely a vacation trip ..... 2. _____
It is for the purpose of visiting friends or relatives ..... 3. _____
This is an emergency trip (illness in family, etc.) ..... 4. _____

The seats on this train are reserved in advance:

Do you like having your seats reserved? ..... Yes 1. _____ No 2. _____ (13)
Would you use this train if they were not? ..... Yes 1. _____ No 2. _____
Have any difficulty reserving your seats? ..... Yes 1. _____ No 2. _____
If there were a service charge of 50 cents for each seat reserved, thereby enabling us to discourage people from failing to cancel seats they do not intend to use [illegible] reserved

This questionnaire was circulated among "Shasta Daylight" passengers during the forepart of the year. The rear of the sheet carries a blank space for individual comments

MAP	Miles from Portland	No. 9 to San Francisco Read Down	STATION (ELEVATION) *Times shown, other than stops, are approximate and for your information only*	No. 10 to Portland Read Up	Miles from S. F.
		Leave	*All times shown are Pacific Standard Time.*	Arrive	
	0	7:45 AM	**PORTLAND** (30) Oregon's largest city, fresh-water port, famous for its beautiful homes and annual Rose Festival. Leaving Union Station you cross Willamette River, head south through Willamette Valley, which you follow to Eugene (124 miles). Valley is 30 to 60 miles wide, between Cascade Range (east), Coast Range (west), covers 13,000 square miles, is about size of Holland. One of the nation's richest, most beautiful agricultural areas. As you leave Portland, you may see snow-capped Mt. Hood (11,225 ft.) to east, Reed College, Eastmoreland Municipal Golf Course. To west, Council Crest heights and famous medical center.	11:15 PM	718
	11	8:12 AM	**CLACKAMAS** (110) Named for Clackamas tribe of Indians. Oregon National Guard rifle range to east. Rudyard Kipling once fished for salmon in Clackamas River.	10:49 PM	707
	16	8:20 AM	**OREGON CITY** (74) First Incorporated community west of Rocky Mountains (incorporated 1844). First Protestant Church, first Masonic Lodge, first newspaper west [illegible] River. Falls	10:40 PM	702

Portion of strip-type itinerary supplied each "Shasta" patron

structure. To illustrate: An intermediate passenger on the Shasta ordinarily pays the basic mileage fare. But if he journeys from San Francisco to Eugene, the basic fare exceeds the special rate from S. F. through to Portland; hence he pays the latter.

By this means S.P. officers believe they have preserved the basic fares while, at the same time the road can offer lower rates between points where sufficient volume can be generated to build up a train load which will more than offset the lower revenue per passenger-mile.

Schedules: The "Shasta Daylight" is believed to have the second longest distance *daylight* streamliner run in the country. Including the ferry connection, the 718-mile trip is ticked off in 15 hours 30 minutes in each direction. The run is made "comfortably," without disturbing the passengers on the loops and zig-zags of the Cascade mountain country. Departure from initial terminal at 7:45 a.m. — not too early — and arrival at destination well before midnight (except during daylight saving time) were chosen without regard to mail, connections, or any other consideration except to capture maximum patronage for the "Shasta" itself. The S.P. believes that the most profitable field for the railroads lies in daylight coach trains on runs sufficiently long to attract autoists. The "Shasta" fills that prescription.

Service: "Shasta" passengers are accorded the "special gestures" which help put fine equipment over. A passenger agent accompanies the run throughout and makes his presence known to every passenger. The train salesman is a trained S.P. employee and assists in acquainting passengers with the scenery besides offering candy and souvenirs. (He does not vend other refreshments.) Each passenger is provided a free folder which unfolds into a two-foot long, strip-type map and itinerary sheet, setting forth station passing times, mileage and historical and geographical notes — a portion of which is reproduced with this article. Points of interest, station stops and times of meal-servings are announced over a train loudspeaker system. The latter proved to be particularly useful during the recent switchmen's strike when the overnight connection between Portland and Seattle had to be annulled with little prior warning. A loudspeaker system in each car acquainted "Daylight" passengers with the situation and outlined alternative means of transport. Then tallies were taken of the desires of those passengers proceeding beyond Portland, and arrangements were made by wire with bus companies, hotels and other railroads for their disposition.

It is routine for the passenger agent on the Shasta to arrange for space for passengers on connecting trains to the north and south. On northbound runs he records the names of passengers seeking Pullman space on the Great Northern's overnight train from Portland to Seattle and, at Dunsmuir, Cal., 425 miles out of Portland, wires their names and type of accommodation desired. At Eugene, Ore., 124 miles from Portland, he receives advice of space assigned to each passenger, which he notes on the ticket envelope of the holder. Since the G.N. train leaves 15 minutes following arrival of the "Shasta," connecting passengers purchase their space from the former's conductor. The "Shasta" connects on fairly close time with the S.P.'s "Owl" at Martinez for Los Angeles via the San Joaquin valley. Space requirements of "Shasta" passengers are wired ahead, and tickets — including time-consuming step-ups from coach to sleeping car class — are made up in advance, so that passengers merely pay for them and pick them up at Martinez before boarding the "Owl."

As on the "Coast Daylight" between San Francisco and Los Angeles, all hand baggage on the "Shasta," except hats and light parcels, is handled at the ends of the cars in elevator-equipped storage space. Pieces are tagged for putting off at intermediate points. Baggage through to final terminals is tagged through to taxi stands, at passenger's request, and handled by red cap direct from elevator doors. This procedure makes it unnecessary for passengers to wait while baggage is unloaded off car platforms or to mill about seeking red caps. At the taxi stand the patron surrenders the check given him on the train by the porter and pays his red cap fee at that time.

How Passengers Like It

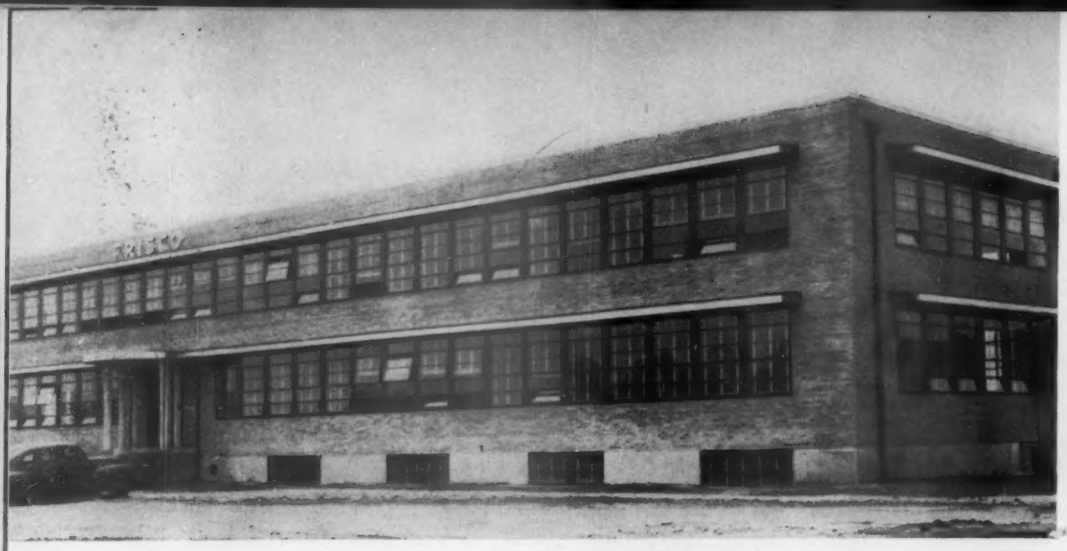
During two distinct periods of the "Shasta's" first year of operation passengers were asked by questionnaire to indicate why they chose the train and how they rated its fare, schedule and service features. The first questioning occurred on 14 trips during August, 1949, when 3,562 replies were collected. The second, based on a much more elaborate questionnaire form (reproduced in part herewith), was circulated on five trips during January and February, 1950. Of the total of 1,350 forms which were handed out during the midwinter test, 81 per cent were returned.

The percentage distribution of some of the more significant replies to each of the two questionnaires is listed in Table 2. It is noteworthy that, in the midwinter test, more than 32 per cent of the passengers were motivated primarily by the schedule conveniences of the "Shasta," and that 18 per cent went to see the scenery. Air line service would have been the choice of 17 per cent of the train's patrons, if "Shasta" service were not available. Paid railroad advertising and word of mouth accounted about equally in disseminating the desire to ride the "Shasta."

Many of the points on the midwinter questionnaire were designed to guide the road in future operations and replies are not here tabulated. It is interesting to observe that 96 per cent of the passengers used, or intended to use, dining car facilities — 55 per cent the economy meal "coffee shop car" and 42 per cent the select meal diner. Some 94 per cent of the responding patrons said they like the idea of reserved seats and as many as 27 per cent said they definitely would *not* use the train if the practice were discontinued.

Comparing the type of travel indicated in the two tests, the build-up in the relative importance of business travel in the second period is noteworthy, in view even of the natural falling-off in pleasure travel in midwinter. The S.P. says the train took time to "catch on" with "expense account travelers," some of whom viewed predominantly coach trains, on daylight schedules, with suspicion. But they caught on, and the S.P. hazards the guess that business-type travel is holding up well even during the summer. Asked why he took the "Shasta Daylight" instead of flying, as he was accustomed to, one produce man said, anent the fare differential, "My time ain't worth $22.15, when I can loll on the 'Shasta.'"

"There isn't any question but what customer relations have an effect on the volume of business. There is no way of measuring its effect but travelers and shippers, other things being equal, are just as apt to be selective in buying transportation as they are in the choice of hotels and the purchase of merchandise."—*The Railway Clerk.*



The new office building has a "dead-level" roof so that no construction problems would be presented should the personnel growth require addition of a third story

A RAILROAD OFFICE BUILDING OF ADVANCED DESIGN

Frisco erects structure featuring perimeter heating and rooms that can be increased or reduced in size

At the time the St. Louis-San Francisco built its new Diesel shop and related facilities at its West Yard in Springfield, Mo., it was decided to construct a new building to house the personnel of both its terminal and division offices. However, more than once the Frisco had experienced a situation where the usefulness of an office had been impaired by the growth of the staff housed in it. For housing the personnel of two office groups under one roof, the road designed the new office building to be as flexible as possible for expanding and contracting space allocations as required.

The new structure—a two-story buff-colored brick building, 40 ft. by 139 ft.—has a number of distinctive features. Among these are movable partitions, a concealed perimeter heating system, architectural-projected windows, wood parquet flooring, metal furniture of modern functional design, and a harmonious color scheme involving 62 different colors. Another interesting feature is the level roof and the provision in the design and construction for the addition of a third story should further expansion be necessary.

The building is of fire-resistant construction, having a full basement, the walls of which are carried on spread footings, and building walls and floors supported on an all-steel welded frame of wide-flange columns and beams and of open-truss steel joists. The exterior walls are of structural clay tile faced with brick and the floors are 2-in. concrete slabs on rib-metal lath. These slabs are covered with prefinished wood parquet flooring in all offices and asphalt tile in the halls. The roof is also a 2-in. concrete slab reinforced with metal lath and was made level to serve as a floor for a third story in the event that future developments might require it. It is covered with built-up four-ply roofing.

The new office features another modern development in building construction in the use of architectural-projected type windows set flush with the exterior wall surface. These windows are installed in continuous banks, one for each floor, around the building, and the banks are unbroken by pilasters or brickwork except at the four corners and around the doorways.

Room Sizes Are Variable

Movable cross partitions were used between the exterior and corridor walls to permit individual offices to be expanded or contracted as required. Each partition is 1¾ in. thick and is comprised of a cellular core sandwiched between two sheets of Transite. Although it can be moved by two men in one day, the cross partition is substantial and effectively prevents the transmission of sound between rooms. Cornice moldings at the top of the partition and baseboards contribute to a finished appearance. In alternate partitions, two wardrobes were built with their doors facing in opposite directions, so that each room has its own clothes closets.

The sizes of the rooms may be enlarged or reduced in multiples of 4 ft. 9½ in., which is the distance between centers of the window mullions. All doors in the fixed corridor walls were located so they would not present a construction problem should any cross partitions be relocated. For the same reason, all light fixtures were placed so that they fall on window centerlines, while electrical power outlets were located for the most part on the partition walls.

For heating the offices, the Frisco installed a perimeter heating system which its officers believed to be the first installation of its kind in such a structure and the most satisfactory for a building where the cross partitions are movable. In this system hot water pipes are inclosed in a

continuous, louvered, sheet-metal chase within the exterior walls under the windows, and extend completely around the building on each floor level. The system does not remove the moisture from the air and it eliminates all free-standing radiators and hot-air registers.

Hot water for the heating system is furnished by an oil-fired Kewanee boiler located in a boiler room in the basement.

The hot water leaves the boiler at a temperature of 160 deg. and produces a temperature of about 95 deg. at the radiation surface. The heating system is divided into two primary circuits, one for the east end of the building and the other for the west end. There are 54 secondary circuits, 18 for each floor and the basement, there being one circuit between each pair of building columns. Heat is radiated from the secondary circuits by Vulcan fin-type radiation.

The continuous heating-pipe chase also incloses all telephone, buzzer, intercommunication and electrical conduits. These communication facilities are made readily accessible at any point by the provision of a removable cover plate installed in the sheet-metal casing around every window mullion and of removable panels in the chase under every window.

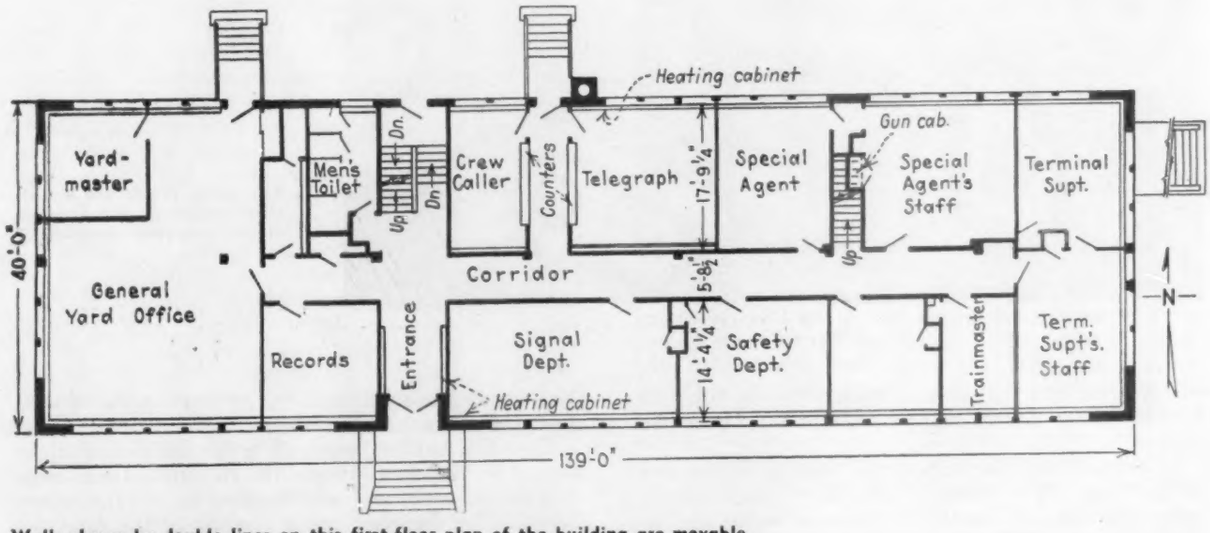
Exceptional Use of Color

Each wall in each office of the building is painted a different color; in all, 62 colors were used. All colors and finishes were selected by the railroad's architect so that no two offices have the same colors. Premixed paints were ordered by manufacturer's number and shade to assure the correct color without the additional expense that would be involved if the mixing were done by the painters.

In selecting the colors for each office, several factors were considered, among which were the direction the office faces, the function of the office, and the size of the room.

In all cases, soft color tones were used on the walls that the office workers face, and complementary colors were used on the walls behind them. The interior surfaces of the outer walls were painted in neutral grays, while the opposite walls were painted in colors

The appearance of the upper stair landing is enhanced by the use of a vertical panel of glass blocks in the exterior wall



Walls shown by double lines on this first-floor plan of the building are movable partitions which permit the room sizes to be varied in multiples of 4 ft. 9½ in.

Employing the radiant-heating technique, hot water pipes are inclosed within a sheet-metal chase under the windows and extend completely around each floor level. The metal furnishings are of modern design

The toilet rooms are bright, well-ventilated, and finished in easily-cleaned materials

harmonizing with the two end walls. Ceilings, being of Acousti-Celotex tile throughout the building, were unpainted.

In keeping with the modern and pleasing appearance of the new office building, all offices were entirely equipped with new furniture. This new equipment includes both standard and executive-type desks of modern design, tables and file cases—all of metal, with linoleum tops, and of one color.

The office building was built under the general direction of H. B. Barry, who retired recently as chief engineer of the road, and was designed by O. H. Tucker, architect for the road and a member of the American Institute of Architects.

Coordination or Competition of Rail and Truck Rates: Which Is Sound Economically?

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Should railroad and motor freight rates from the same points of origin to the same points of destination on the same commodities be the same, or should they be different? If they are not the same, what should be the basis for the differences? Are carriers of these types on sounder economic footing if the rates for similar services are identical or different? Are the interests of shippers and consignees better served if these carriers offer the same or different rates? Which method of pricing is in the public interest—the public interest being understood to mean the sound economic interest of shippers and carriers as groups embraced in the larger aggregation—the public?

In Great Britain prior to nationalization, as in the United States, the railways tended to equalize or establish identical railway rates on the same commodities from the same points of origin to the same destination via competitive rail routes. The development of road transport in Great Britain following World War I introduced a new and different element of competition. The relatively small road transport agencies, the large number of road carriers, the flexibility of their operations, and the smaller capacity of the operating units, made the equalization of railway and highway freight rates difficult. Many railway rates were "statutory rates" required to be made in conformity with the railways' statutory obligations, while motor carriers had relatively greater liberty in making rates because of the absence of corresponding statutory rate obligations. A period of chaotic service and rate competition culminated in the railway's "Square Deal" campaign, and the report in 1939 of the Transport Advisory Council to the minister of transport recommending the modification of the railways' statutory rate obligations. The appendices to the report of the council included a memorandum signed by representatives of the railways and the Liaison Committee on Road Transport which contemplated the coordination of railway and road freight charges on the basis of voluntary agreements. The memorandum stated: "The two forms of transport—rail and road—will continue to exist side by side as competitive but coordinated agencies. The competition will, however, be of a different kind for, under a co-related system of rates, it will be more than ever the object, and the interest of each to win traffic by the quality of the service which it renders."[1]

The hope and expectation expressed in this report were that service competition between carriers of these types would be conducted in orderly fashion on the basis of equalized rates. The railway and road carriers, it was contemplated, each would have their own identities and financial independence, and would compete for traffic as independent enterprises, but would bring their freight rates into agreed relationships. How far this program would have gone is a matter of conjecture; although, in the light of experience one is justified in entertaining some doubt as to its achievement. The outbreak of World War II with the attendant heavy burden of traffic placed upon carriers of all types, rising costs, war damage to transportation facilities, and related problems—matters more urgent than rate relationships—put an end to the efforts to effect rate coordination.

[1] Agreed memorandum, Liaison Committee on Road Transport Rates, 1939.

Result of Nationalization

The act of 1947, which provided for the nationalization of all of the major forms of transportation enterprises in Great Britain, brought all of these forms of transportation under the ownership and operation of the government. The administration is placed in the British Transport Commission with separate Executives responsible for railway, road transport, canals and docks, London passenger transportation, and hotels.

The Transport Act provides that the British Transport Commission shall prepare drafts of one or more schemes or patterns of rates and charges and submit them to Transport Tribunal. These proposals are required to embrace the charges for transportation of goods by railway, road transport and inland waterway. They must include charges for port facilities and inland waterway transport in Great Britain, and for the storage of goods in Great Britain. At the discretion of the British Transport Commission the "charges schemes" may include the charges for any other services or facilities within the jurisdiction of the commission. The general objectives of any "charges scheme" or rate pattern are to provide rates and charges for services and use of facilities of railways, motor highway transportation carriers, and inland waterway carriers which will:

1. Be orderly and consistent;
2. Meet the reasonable demands of trade and industry;
3. Provide adequate revenue to the carriers, or to the respective Executives, for their services, with due regard to economy and efficiency;
4. Maintain the charges for such services on a reasonably competitive footing; and,
5. Facilitate the integration of transport.[2]

It should be noted that the charges scheme or schemes is made the responsibility of the British Transport Commission which has jurisdiction over all of the transport enterprises and not by the Executives in charge of the several types of transportation, and that the proposals have as one of their objectives the integration of transportation. Transport rates are to be used as an integrating device rather than the prices for competitive transportation services.

The "charges scheme," as presented in outline form by the British Transport Commission, indicates that con-

[2] Pike, J. R., Chief Rates and Charges Officer, The Railway Executive, paper: "The Coordination of Freight Transport Rates," *The Journal of the Institute of Transport*, London, Vol. 23, No. 11, July, 1950, p. 347.

sideration is being given to the establishment of rates and charges for railway, inland waterway and road transport goods or freight services by standardizing the conditions of carriage, classification of goods, and calculation of distance for all three types of carriers. Each form of transportation, it is indicated, will use the same terms and conditions of carrier liability, the same system of freight classification, and the same method of determining distances for rate-making purposes.

Basic Rate-Making Problems

It is not the purpose of this discussion to condemn a rates and charges program before it is presented. Neither is it the intention here to decide for British transport men, their patrons and the regulatory agencies what an American presumes to think they should adopt. This is their problem. The outline of the scheme and the Transport Act and the current discussion of the rate implications of the act suggest four basic principles which should be considered by American railway, highway and inland water carriers, shippers, and regulatory agencies to determine whether or not they may be appropriate for consideration in the United States. These fundamentals are, in the opinion of this writer, of great basic importance. They are:

1. Should rates and charges be used as a device to stimulate or force coordination or integration?
2. Should the liability, contractual relationships, and terms and conditions of transportation be the same for railroad, highway and inland waterway freight transportation?
3. Should railroads, highway and inland waterway carriers use a common system of freight classification?
4. Should the rate-making distances by railroad, highway and inland waterway be identical despite differences in actual distances via these different forms of transportation?

That we must rethink our rate problems in this country and be receptive to bold proposals for changes must be apparent to anyone who has any acquaintance with present day rate problems and the anomalies of heavy traffic, high rates and inadequate earnings. If we are seeking a simple easily understood rate structure which can be interpreted and applied with a high degree of certainty to determine the charges for transportation by any means of transportation, the answer to these questions is probably yes. But the object of a rate structure is not just that it be easily understood. Rates are prices, and are subject to complex economic forces. Prices are inescapably complex. Their function is to bring together buyers and sellers of goods or services. In the absence of artificial floors or ceilings or other controls, they represent the interplay of supply and demand, of cost of performing the services against the value of the services. Unless they are made artificially by fiat of an administrator or regulatory agency with arbitrary power they should reflect relative costs and value, difficult as the determination of these cost and value factors may be.

Coordination, Integration or Competition

The use of rates to stimulate, induce or coerce coordination or integration appears to this writer to be considering the problem in reverse. Desirable as it may be to encourage and facilitate the establishment by railroads, motor carriers and inland water carriers of through joint arrangements, where such services and arrangements are economically justified, it does not appear proper to use rates as a pressure instrument to bring these arrangements into being. It seems more logical to permit reasonable rates to be established for such services, and to permit each carrier to make rates which to it are compensatory for its portion of the services and to handle the traffic and type of hauls where it has a comparative cost advantage.

Railways, motor carriers and inland waterways have different cost characteristics. Although there is controversy as to the exact differences in fixed as compared with variable costs in each form of transportation, most students of transportation cost behavior agree that the costs via different types of transportation differ because of:

1. The relative amounts of investment in fixed plant facilities;
2. The size of the units in which the goods are transported—in train-loads by railroad, in truck-loads by motor carriers, in barge-loads by inland water carriers, and in ship-loads by steamship operators;
3. The man-hours of labor per unit of freight transported required in each form of transportation; and,
4. The costs of providing necessary auxiliary or ancillary services required in moving freight via different types of transportation.

If these basic differences in cost behavior are not determined for movements via different forms of transportation and rates are made the same by each form of transportation, traffic which would be fully compensatory to one form of transportation would be carried by another type of carrier at the same rate which would not be compensatory to it. Alternately, if the rates were established sufficiently high to cover the costs of the least efficient carrier in transporting certain movements of goods, the rates to the more efficient carriers might be unreasonably high. It seems axiomatic that, as a matter

of sound economics and as a matter of legal right under the Interstate Commerce Act, each type of carrier is justified in making rates based upon the inherent economic advantages of transportation by this form of transportation. As a corollary, each type of carrier should not be forced to make rates which are based upon the economic or cost characteristics of a different type of carrier. To make rates based upon the cost characteristics of another type of carrier is to ignore fundamental economic principle in order to achieve uniformity in rates. This is the exchange of a valuable inherent right for a pitifully inadequate mess of potage.

The Question of Costs

The fact that relative costs are difficult to determine and that their exact determination is a controversial matter should not deter the use of relative cost data where it can be determined with reasonable certainty for particular services or for different types of services. In the public interest, it is desirable that carriers of different types compete with each other for traffic which they can transport at a comparative advantage and that the freight rates of each type of carrier reflect the comparative costs of transporting different kinds of goods in different lengths of haul upon this basis of rate determination, rather than upon rates which are based upon the costs of a carrier of a different type and made the same for carriers of different types.

If this principle is followed rigorously, each type of carrier will make its rates upon the basis of its costs. The rates on the same commodities may be different via rail, motor or water, or may vary dependent upon the quantities of the shipments of same goods, depending upon the relative efficiency of the carriers. Traffic will tend to be attracted by relatively lower rates to the most efficient carrier cost-wise, as it should be. The carriers which are relatively less efficient with respect to handling certain types of traffic or lengths of haul will seek other traffic or other hauls with respect to which they have a comparative cost advantage. The rates of each type of carrier, under these circumstances, will be fully compensatory on the freight it handles. If a type of carrier has no relative cost advantage with respect to any commodity or any haul it will be eliminated from competition—as it should be in the public interest and in its own best interest. No carrier has any claim to existence if it is not relatively efficient in comparison with other carriers in handling some commodities or some services.

There is a clearly defined trend in rate-making from placing major emphasis upon the value of the service or what the traffic will bear, to consideration of the cost of performing the transportation services. As the volume of traffic grows toward the capacity of the plant for which the traffic is built, there is a tendency for unit costs to vary more nearly in direct proportion to volume and less justification to offer services at rates which only cover out-of-pocket costs in order to increase the volume of traffic.

At this point the traffic which does not bear its share of general expenses shifts inequitably the burden of bearing more than the proper share of such costs to the rest of the traffic. For this reason, differences in rates, excepting differentials justified by density, fragility, handling and other transportation characteristics which affect costs, cease to be justifiable on economic grounds.

Because they have larger fixed investment and differences in constant and variable costs, railroads require a lower operating ratio than motor carriers and a correspondingly larger spread to pay fixed charges. The operating ratio is the percentage ratio of operating expenses to operating revenues. Selecting a representative prewar year, 1940, the operating ratio of Class I interstate motor carriers was 95.5 per cent, while for Class I railways it was 71.9 per cent.[3]

Liability of Carriers

Variations in the liability of carriers of different types —rail, motor and waterway—although probably justified in the earlier stages of the development of transportation when the hazards of transportation by land and sea were different and communication uncertain—appear to have outlived their justification. Payments for transportation, viewed largely, consist of compensation for the transportation of the goods, including certain incidental services necessary to the transportation, and compensation for the risk of carriage assumed by the carrier. There appears to be no insurmountable obstacle to the assumption of uniform common carrier liability by rail, highway and water, as limited by a uniform bill of lading contract for all types of carriers, at rates which will include insurance against the risks of loss or damage. The assumption of a standard basis of liability by car-

[3] Interstate Commerce Commission, Bureau of Transport Economics and Statistics Statement No. 4725, File No. 7-E-8, Washington, D. C., 1949, pp. 156-157; and *Statistics of Railways in the United States*, Fifty-Sixth Annual Report, Washington, D. C., 1944, Table 99, p. 97.

riers of all types would add greatly to the assurance with which shippers could give traffic to any type of carrier knowing that the risks of transportation were covered.

Classification

A common classification of freight followed by all types of carriers would be a convenience in so far as the use of carriers' services is concerned. For reasons discussed above, the costs of transporting the same goods in identical or different sized lots differ among carriers of different types so that these differences in cost should be provided for by differences in rates. This requires in some cases: (1) differences in class ratings for goods moved by rail, water or highway; (2) different class ratings for different minimum weights if the quantities of goods of the same kind which one type of carrier can transport more efficiently than others is to be considered, as it should be; and (3) differences in packaging for goods moved by different types of carriers when such differences are justified. Many of these distinctions could doubtless be made in a single classification unless they would be so numerous as to make the classification unwieldy and unduly complex. In this case they might be provided by separate exceptions to the classification tariffs published by the railroad, motor freight, and waterway carriers, or by commodity rate tariffs.

The outline of the forthcoming British rates plan indicates that British rate makers are thinking in terms of a standard freight classification applicable for use in connection with shipments by railway, road or inland waterway. The classification of goods will be made by giving chief consideration to the load factor, which is an element of cost, and secondary consideration to value of the service to the user, or what the traffic will bear. This inverts the consideration of these classification factors practiced by British railways in rate-making and classification in the past under the Railways Act of 1921. Under the new rates scheme, as indicated in the preliminary outline, a classification or rating scale will be used giving the lowest ratings to articles which can be loaded to the loading capacity of the vehicle and relatively higher ratings as the commodities descend in their relative loadability. This rating scale is difficult to apply practically because of differences in types, sizes and carrying capacities of freight-carrying vehicles and differences in packaging. The device is designed to encourage the optimum loading of vehicles so as to insure adequate revenue per operating unit. Without subscribing to this rating scale based upon load factor, it is important that the costs of handling different quantities of freight in different types of carrier vehicles be considered in making freight rates and in the classification of freight.

Distance Basis for Rate-Making

One of the thorniest and most time-consuming tasks in rate-making is the determination of short-line distances. The technical job of calculating short-line distances is a difficult and exacting one. There is need for a system of distance determination which can be used and understood generally so as to obviate the necessity of doing and redoing this job. The British rates scheme outline proposes to adopt an official location of every point of origin and destination by the use of the "National Grid," an official map directory. All distances by railway, waterway and highway for rate-making purposes are the highway distances between the basing points in each grid square. This method is basically a group distance pattern using distances between key points. This method has been used in rate-making and division-making by railroads and to a lesser extent in motor transportation. The radical departure from precedent in this system is the use of highway distances as the basis for rate-making distances via other forms of transportation than railway. The grid-highway mileage formula is not without defects particularly in the distortion of short distances and in cases where waterways require circuitous highway routes. Presumably adjustments will be made to correct distortions due to these conditions.

The direct relationship of distance to transportation costs is by no means generally accepted by students of transportation economics, including the present writer, but where railroad, highway and waterway distances are greatly at variance it is inequitable to carriers and to shippers to use any one as the rate-making distance for all.

The present writer would suggest the compilation of reasonable distances between selected key point traffic centers in the United States via railroad, highway and waterway routes and the adoption of these distances by the carriers of each type and by the regulatory agencies as official distances for rate-making via that form of transportation. These official railroad, waterway and highway distances would save annually large amounts expended in distance checking in rate-making, tariff publication, division determination and settlements and in rate cases to carriers, shippers and the government. Their use would simplify and reduce the ambiguities and confusion in freight tariffs where rates are based upon distance.

Tentative Conclusions

This rapid sketch can do no more than suggest matters which should be given careful study in steering the course of freight rate making. The evidence points toward the desirability of competition in transportation services by railroad, highway and waterway, including both service and rate competition. There appear to be valid reasons not to use the equalization of rates by railroad, highway and waterway as a device for inducing or compelling coordination or the integration of carriers and their services, although through joint rates, routes and services via rail, highway and waterway are desirable. The rates of each type of carrier should be made with consideration to its costs and not those of other carriers, if the carriers hope to receive compensatory rates for their services. Rates should be based primarily upon cost rather than upon the value of the service or what the traffic will bear, and should as a minimum return to the carriers of each type their "out-of-pocket" costs. Each type of carrier should seek to develop the type of traffic and units of shipment in which it has a comparative efficiency or advantage.

There appear to be no valid reasons, excepting technical difficulties, why all types of carriers should not transport upon the same bases of liability and publish "insured rates." A classification system for all types of carriers would require appropriate modifications by each type of carrier through exceptions to the classification or commodity rate tariffs to insure appropriate rates for their peculiar service and cost conditions.

Standard official distances via each type of transportation carrier are desirable, and in the opinion of this writer, preferable to standardized distances to be used in rate-making by carriers of all types.

Economics and Economies Keynotes of A. A. R. Signal Section Meeting

Three-day sessions in New York consider modern practices that save train time and reduce operating expenses

Right — W. S. Storms, Chairman, Signal Section, Signal Engineer, Erie. Below left — D. W. Fuller, Vice-Chairman, Signal Section, Signal Engineer, Eastern Lines, Atchison, Topeka & Santa Fe. Below right — R. H. C. Balliet, Secretary, Signal Section, A.A.R.

Methods of reducing operating expenses and expediting train movements, as well as yard operations, by the use of modern signaling systems were the important subjects discussed at the annual meeting of the Signal Section of the Association of American Railroads, held at the Statler Hotel in New York, September 18, 19 and 20. W. S. Storms, signal engineer of the Erie, presided as chairman at this meeting, which was attended by 682 members and 307 guests.

In addition to opening remarks by Chairman Storms, the program included addresses by C. A. Taylor, vice-president and general manager of the Chesapeake & Ohio; J. H. Aydelott, vice-president, A.A.R.; W. J. Patterson, commissioner, Interstate Commerce Commission; and Robert S. Henry, vice-president, public relations, A.A.R.

Reports presented by 10 of the standing committees dealt with requisites, specifications, standard drawings, circuits and other technical details, of interest primarily to signal engineers, and are not discussed here. However, the reports of three committees, of general interest, dealing with economics of signaling, signaling practice and highway crossing protection, are abstracted later in this article.

One report indicated that a net reduction in operating expenses of $111,751 was accomplished by a total investment of $392,476 for a traffic control system of train operation by signal indication on 98 miles of single track on the Chicago, Milwaukee, St. Paul & Pacific between Aberdeen, S. D., and Mobridge. The average road time of freight trains was reduced 1 hour 45 minutes, which is an average of 1.07 minutes per freight train-mile.

A report on light-traffic centralized traffic control installations listed 19 projects handling from 12 to 21 trains daily, and explained benefits of C.T.C. to train operations. A report listed nine highway crossing projects which improve safety and yield savings in operating expenses equivalent to annual returns of 12 per cent to 92 per cent on the investments. In one example, at Mishawaka, Ind., on the New York Central, a total of 30 street crossings were involved; at 20, new uniform protection was installed, while 10 crossings were closed.

By changing the track layout and installing car retarders and power switches in a classification yard at Russell, Ky., the Chesapeake & Ohio reduced the average cost per car humped from $0.288 in 1928 to $0.0781 average in the last 19 years. In centralized traffic control territory the St. Louis-San Francisco retired 11 miles of second main track, thus reducing operating expenses $39,229 annually, providing an income tax saving of $120,799, and an estimated return of $174,945 in salvage.

As an aid when calculating the savings to be effected by proposed signaling, one report by this committee listed, for each railroad, the road-freight train crew wages and specified elements of freight service cost per ordinary train-mile, which vary from 224.54 cents on the Central of Georgia to 841.22 cents on the Bessemer & Lake Erie, with a composite average of 302.52 cents. Another table lists, for each principal railroad, the state and local taxes per mile of road operated, which vary from $198 on the New York, Ontario & Western to $2,017 on the Central of Jersey, and $4,140 on the Long Island. Tables of track and roadway maintenance expense per track mile, show variations from $1,199 on the Rutland to $4,765 on the Chesapeake & Ohio and $8,678 on the Richmond, Fredericksburg & Potomac.

An extended report dealt with the economics of sidings in centralized traffic control as affected by siding usage, siding length, and size of turnout. If the average daily cost for an installation of C.T.C. at a siding is $8.22, for example, this charge can be justified by the elimination of five train stops daily at an average saving of $2 per train stop.

A report on off-track equipment explained that a $5,000 machine for digging trenches for buried signal cables will reduce the cost from about 43 cents per foot

trench by hand digging, to about 19 cents with machine digging.

The committee on highway grade crossing protection presented a report on various subjects, including: (1) requisites for control of automatic grade crossing signals and devices; (2) revised specifications for the installation of automatic gates; and (3) revised requisites for No-Left-Turn signs for use on crossing signals.

The Committee on Signaling Practice presented reports on two subjects. As a noteworthy change in signal practice, the committee called attention to a consolidation of the control of 15 interlockings on a division of one railroad. The first step, now under way, includes 6 of these plants. Surveys have been made for other such projects, one of which will involve 17 plants on one division.

Reports on new and improved devices explained: (1) code line unit; (2) device for operation of cab signal; (3) wiring harness for switch and lock movement; (4) special relay for use in series with searchlight signal to provide slow pick-up action on mechanism; (5) retained-neutral neutral relay; (6) shelf-mounted plug-in relay; (7) flasher relay that has equal "on" and "off" periods, and operates independent of temperatures; and (8) an improved retarder.

Abstract of Patterson's Address

"In the commission's report in Ex Parte No. 171, we stated that an investigation for the purpose of revising, amending and modifying the rules, standards and instructions prescribed by the commission's order of April 13, 1939, was deemed necessary because those rules had been in effect for more than 10 years, and experience had shown that some of them should be eliminated and others clarified, and in some respects they were incomplete and inadequate to carry out the purposes of section 25 of the Interstate Commerce Act. Also, many of the rules were too general and indefinite, and still others were so worded as to be capable of different interpretation. [The revised rules, standards and instructions were issued June 29, 1950, and are to be effective October 1, 1950.]

"While there are 21 new sections in the revised code, some of these represent practices which the commission has required for some time, although they were not specifically mentioned in the 1939 order. For instance, section 136.314 requires that an electric lock shall be provided for each hand-operated switch or derail within interlocking limits, except where train movements are made at not exceeding 20 m.p.h. There was no such rule in the 1939 order, but the commission has interpreted section 310 of that order as requiring electric locking for hand-operated switches within an interlocking, and has always granted relief from this requirement where speeds over the switch did not exceed 20 m.p.h. Obviously, under the present order it will not be necessary to request relief from installing electric locks on hand-operated switches within interlocking limits where movements are not made at speeds above 20 m.p.h. Similarly, the 1939 order did not require that each hand-operated main-track switch in centralized traffic control territory be electrically locked, as required in section 136.410 of the new code, but the commission never approved the installation of a centralized traffic control system without the condition that each hand-operated main-track switch be equipped with an electric lock.

"Section 136.203 is a new rule, but it is nothing more than a description of the different types of protection which complies with the commission's interpretation of the requirements of section 51(b) of the 1939 order with respect to hand-operated crossovers between main tracks. All the crossover protection which has been installed in compliance with this interpretation of section 51(b) will therefore conform with the requirements of section 136.203. . . . The commission formally brought to the attention of the carriers its interpretation of the requirements of section 51(b) in the early part of August, 1944, and accordingly there has been a six-year period in which to provide this protection, and I trust that on the first of October when the new order goes into effect that none of the crossovers will be in violation of section 136.203.

Protection for Spring Switches

"Sections 136.12, 136.13 and 136.14 are new rules relating to signal protection for spring switches. Their rapidly expanding use in main track since the 1939 order was issued prompted the commission to give consideration to requiring better protection for train movements over such switches. . . . Accordingly these new rules are designed to prevent a train from moving through a spring switch out of a siding, or from the reverse main track at the end of double track, in front of another train closely approaching the switch in the trailing direction on the other track. . . .

"The term 'centralized traffic control' is not used in the new order. The rules which appeared in the 1939 order under the subheading centralized traffic control systems are included in the new order under subpart D, titled Traffic Control Systems. The definition for traffic control system, section 136.828, is as follows: 'A block signal system under which train movements are authorized by block signals whose indications supersede the superiority of trains for both opposing and following movements on the same track.'

"This definition is broader in scope than the old definition for centralized traffic control, because while it includes C.T.C. systems, it is not restricted to them, but embraces all methods of operation by signal indications, which supersede the superiority of trains, on track signaled for movements in both directions, such as operation under Rule 261 of the standard code.

"Under the 1939 order it was the commission's experience that if a railroad desired to install a so-called centralized traffic control system, but did not wish to comply with all of the rules in the 400-series of that order, as well as the requirement for electric locking of hand-operated switches, which the commission has always insisted upon for C.T.C. installations, it merely called the system by some other name in its application for approval and in its timetable and book of rules, and then since it was not a centralized traffic control system it did not have to comply with the requirements for such a system.

"Under the new order, the commission does not care what name a railroad uses to designate such a system, but if it is of a type which fits the definition of a traffic control system, that is what it will be called by the commission and it will have to comply with all of the requirements under subpart D.

"Section 136.567 is a new rule which prescribes the procedure to be followed when an automatic train stop, train control, or cab signal device fails or is cut out en route. Objections to this rule were filed by five railroads and these objections are explained in detail in our report in Ex Parte 171. . . . The principal objection was based on the erroneous assumption that the absolute block referred to in the rule meant an absolute manual block. But, as we stated in our report, the rule clearly did not so provide. Our definition for an absolute block is 'a block in which no train is permitted to enter while it is occupied by another train,' and obviously an ab-

solute block can be established by the use of automatic signals, as well as by manual block operators. Accordingly, if by rule, an automatic signal which normally indicates Stop and proceed for its most restrictive aspect, instead is made to indicate Stop with respect to a train on which the automatic train stop, train control or cab signal device has failed or has been cut out en route, an absolute block in advance of that train is thereby established, within the meaning of this section. Then, under this rule such a train encountering an automatic signal displaying its most restrictive aspect would be required to stop until a less restrictive aspect was displayed by the signal.

"There was also some misunderstanding during cross-examination as to what was meant by the next available point of communication, some witnesses having been under the misapprehension that this meant the first open telegraph office, and if this were the case, operation would be slowed considerably if a train had to proceed at not to exceed medium speed to such a point, which are few and far between on sections of some railroads. However, the next available point of communication may be the nearest telephone where a report can be made to the dispatcher or other designated officer, and if the engine is equipped with a radio or inductive train-to-wayside telephone by means of which the crew can communicate with the dispatcher, the engine itself becomes that point. Under this interpretation of section 136.567 compliance with this rule will not work a hardship on any railroad. . . .

Relief from Compliance

"Certain sections of the new rules are followed by a note to the effect that relief heretofore granted to any carrier by order of the commission shall constitute relief to the same extent from the requirements of this part. This note is applicable to section 136.566, which requires that the locomotive from which the brakes are controlled of each train operating in automatic train stop, train control or cab signal territory shall be equipped with the appropriate devices. In Docket 29543 the requirement for installation of automatic train stop, train control, or cab signal devices on freight locomotives was postponed until further order of the commission in the case of four railroads, and this constitutes relief to that extent from the requirements of section 136.566.

"Relief has also been granted to many railroads by orders of the commission in Docket 13413 from the requirement of equipping certain locomotives which only operate over short sections of automatic train stop, train control or cab signal territory and such relief also constitutes relief to the same extent from the requirements of section 136.566. On the other hand there are certain installations where unequipped locomotives operate over sections of equipped track without authority of the commission, such authority heretofore not having been necessary because these installations were made voluntarily, and accordingly, unlike those made under the commission's orders in Docket 13413, there was no requirement that each locomotive operating over the territory be equipped with appropriate devices.

Address by C. A. Taylor

When introducing Mr. Taylor, Chairman Storms explained that the speaker had "grown up" in the signal departments of the Pennsylvania and the Chesapeake & Ohio, having been promoted from superintendent of telegraph and signals of the C. & O. to superintendent in the operating department, and later to general superintendent and now vice-president in charge of operation. An abstract of Mr. Taylor's remarks follows:

"The car retarder installations on the C. & O. at Russell, Ky., and Walbridge, Ohio, have accomplished what we expected they would in expediting classification of cars, and have materially assisted in expediting movement of our heavy westbound coal traffic. . . .

"Signal equipment has been developed rapidly during the past 25 years. This has been brought about by continuous study and research on the part of manufacturers of signal equipment and members of the signal fraternity who have worked together as a team in discovering railroad needs, designing, manufacturing, and testing both in laboratory and actual railroad service, signal equipment until the 'bugs' were taken out. The railroads are indebted to the manufacturers of signal equipment for their part in this development. . . .

C.T.C. Safer Than Train Orders

"In my opinion, centralized traffic control is one of the greatest developments in railway signaling during the past decade. It enables the railroads to greatly increase track capacity and speed up, with safety, the operation of trains over single track without the necessity in a number of instances of spending large sums of money for a second main track. . . .

"It has been said that from a strictly safety standpoint, train operation by timetables, train orders, and a properly installed and operated automatic block signal system is preferable to an operation by signal indication only, such as a C.T.C. system, and that the principal advantages of a C.T.C. system are economic.

"There is no question about the economic advantages of a C.T.C. installation, since it has been proved that such installations will materially increase track capacity with safety, without the necessity of constructing a second track. On the other hand, I think it must be concluded that in actual operation there are numerous conditions under which operation by C.T.C. is safer than operation by train orders with signals, for the reason that the operator or dispatcher has continuous control of a number of signals by which he can stop a train, should any unsafe condition of track, bridges, etc., be reported.

"The fact that all dependence is placed in the signal indication generally results in the engineman being more alert and positive in his observance of signals and handling of trains. Of course, in the final analysis, safety in the operation of trains is dependent upon the observance by train and engine crews of the rules and signal indications that govern operation of their trains, whether it be train orders and signals, or signal indications only. In my opinion, one of the greatest advantages of C.T.C. is the fact that the engineman is governed entirely by signal indications as to whether his train is to clear the main track for other trains, and he does not have to remember the requirements of a meet order delivered to him sometime before the meet is made. . . .

"There is one thing I urge signal engineers always to bear in mind and that is, at least for the present — *keep signal systems as simple as possible.* I say this, because from my experience and observation, there seems to be a tendency on the part of some to unduly increase the number of aspects and indications, making signal systems too complicated. I believe this can be overcome if you will always remember that the man whose duty it is to interpret them has many other duties to perform at the same time, and he may not be as well informed as the men who design them."

GENERAL NEWS

Class I Roads Now Expect 1950 Capital Expenditures to Total $1,039 Million

I.C.C. bureau summarizes latest estimates, which are $169.2 million above those made early this year, but which do not include outlays for equipment acquired under leasing plans; "Monthly Comment" also has figures showing the Diesel-electric's advantage on the basis of gross ton-miles per $1 of fuel expense

Class I railroads which submitted estimates to the Interstate Commerce Commission's Bureau of Transport Economics and Statistics expect their 1950 gross capital expenditures to total $1,039 million, according to the latest issue of the bureau's "Monthly Comment." Among other articles in the issue was an analysis of fuel-cost figures which showed that Diesel-electric locomotives are producing more than twice as many gross ton-miles per $1 of fuel expense as steam locomotives (whether coal or oil burners), or electrics.

The 1950 capital-expenditures estimate contemplates outlays of $276.3 million for fixed facilities and $762.5 million for equipment. The latter does not include the cost of equipment acquired by insurance companies for lease to railroads, of which there has been much in recent months. The bureau pointed up that situation, saying that "the 1950 figures for equipment expenditures have no doubt been affected by plans of certain carriers to fill a portion of their needs by leasing new equipment from insurance companies on a monthly rental basis."

Nevertheless, the estimated expenditures for equipment in the second half of 1950 are only 7.9 per cent under the actual expenditures of the like 1949 period. This compares with a decline of 32.4 per cent in the first half of 1950 vs. 1949. Also, the bureau suggested that "presumably the large orders for new freight cars recently placed by the railroads will not be reflected in their gross capital expenditures until 1951."

And it recalled that early this year the Class I roads had estimated that their 1950 expenditures would total only $869.6 million, or $169.2 million less than the present estimate of $1,039 million (see *Railway Age* of March 18, page 77). The latter, a combination of actual expenditures for the first half and estimates for the second half, would be 19.8 per cent below the comparable 1949 figure of $1,295 million. However, the estimates for 1950's second half include no reports from four roads which made expenditures totaling $17.4 million in the first half. An accompanying table, reproduced from the "Comment," gives the bureau's summary of the railroads' returns.

Comparative Fuel Costs

The analysis of fuel-cost figures also included data showing the proportions of the total freight-service gross ton-miles handled by various types of locomotives during this year's first half. Diesel-electrics, with 43.9 per cent, led all others, their proportion exceeding that of coal-burning steam locomotives (42.9 per cent) "for the first time in any six-month period ended with June," the bureau said. During the first half of 1949, coal burners handled 52.5 per cent of the freight-service gross ton-miles, while Diesel-electrics handled 31.2 per cent.

Meanwhile, the proportion handled by oil-burning steam locomotives was down from 14.2 per cent in 1949 to 11.2 per cent in 1950. The electric locomotive's proportion dropped slightly —from 2.1 per cent to 2 per cent. The fuel-cost comparisons are set out in a table, reproduced from the "Comment."

Discussing this showing, which "clearly indicates the relative economy of Diesel fuel," the bureau called attention to the fact that the figures "cover all Class I roads with widely varying operating conditions and qualities of fuel used as well as the different prices paid for those fuels for the various roads." It went on to set out the unit costs of fuel which it used in its calculations. These figures showed that, in the first six months of this year, the unit cost of coal ($5.42 per net ton) and electric current (1.0666 cents per kw.-hr.) were 3.4 per cent and 1.6 per cent, respectively, above the comparable 1949 costs. Meanwhile, Diesel fuel, at 9.1 cents per gal., was down 9.2 per cent, and fuel oil, at $1.47 per bbl., was down 22.6 per cent.

Age of Locomotives

Another article dealt with the age of locomotives, presenting figures showing that 88.7 per cent of the steam engines in service on Class I line-haul railroads were built prior to January 1, 1930, while 95.4 per cent of the Diesels were built during the past 10 years. The data covered locomotive units in service as to December 31, 1949.

Of the 10,888 Diesel-electrics then in service, only 503 were built prior to 1940, and 422 of the 503 were built during the 1935-39 period. Of the 28,964 steam locomotives in service, 10,677, or 36.9 per cent, were built prior to 1915, 5,466, or 18.9 per cent, were built during the 1915-19 period, and 5,969, or 20.6 per cent, during the 1920-24 period. Thus 76.4 per cent of the total are more than 25 years old.

Of the 817 electric locomotives in service, 90 per cent were built prior to January 1, 1940; and 168, or 20.6 per cent of the total, were built prior to

ACTUAL AND ESTIMATED GROSS CAPITAL EXPENDITURES, CLASS I STEAM RAILWAYS

Period	Number of roads	Road Thousands	Equipment Thousands	Total Thousands
Actual 1949:				
1st half	132	$160,227	$551,520	$711,747
2nd half	132	160,008	422,925	582,933
Year	132	320,235	974,445	1,294,680
Actual 1950:				
1st half	131	119,638	373,009	492,647
Estimated 1950:				
3rd quarter	127	81,594	212,356	293,950
4th quarter	127	75,074	177,129	252,203
2nd half	127	156,668	389,485	546,153
Total: 1950 actual and estimated	—	276,306	762,494	1,038,800
Percent of change:				
1st half 1950 vs. 1st half 1949	—	—25.3	—32.4	—30.8
2nd half 1950 (est.) vs. 2nd half 1949	—	—2.1	—7.9	—6.3
Year 1950 (actual and estimated) vs. 1949	—	—13.7	—21.8	—19.8

GROSS TON-MILES OF CARS, CONTENTS, AND CABOOSES PER $1 OF FUEL EXPENSE

Kind of fuel	Six months ended with June 1950	1949
Coal	2,612	2,725
Fuel oil	2,701	2,232
Diesel fuel	6,018	5,495
Electric current	2,907	2,998

AVERAGE INTRATERRITORIAL FREIGHT RATE LEVELS IN 1947 EXPRESSED AS PERCENTAGES OF THE FIVE TERRITORY AVERAGES AS 100 PERCENT

Commodity group	Territory				
	Official	Southern	Western Trunk Line	South-western	Mountain Pacific
All commodities	98.7	98.5	100.5	97.5	104.7
Products of Agriculture	87.1	103.6	102.0	97.3	109.9
Animals and Products	92.8	104.2	93.0	103.4	106.6
Products of Mines	105.1	98.7	99.1	88.9	108.2
Products of Forests	113.7	91.5	94.0	95.2	105.7
Manufactures and Miscellaneous	97.9	99.2	102.2	101.5	99.2

January 1, 1915. Only 22 so-called "other" locomotives were in service at the close of 1949. All of them were built since January 1, 1925—10 since January 1, 1940.

Extent of Air Conditioning

The extent to which passenger-train cars were equipped for air-conditioning as of December 31, 1949, was the subject matter of another article. It showed that, up to that time, the railroads and the Pullman Company had air-conditioned 16,008 cars, or 36.7 per cent of the total owned. The proportions equipped by types of cars ranged from 97.5 per cent of the parlor and sleeping cars to 0.7 per cent of the "baggage, express and other non-passenger cars." None of the postal cars was equipped.

Other percentages included: Diners, 96.7 per cent; club lounge and observation, 94.9 per cent; and coaches, 41 per cent. "The very substantial progress that has been made in the air-conditioning of coaches is indicated by the fact that only 29.7 per cent of these cars had such equipment in 1943," the bureau said.

Average Freight Rates

The "Comment" also included a brief review of a study entitled "Comparison of Average Freight Rates Charged on Intraterritorial Carload Freight," which the bureau issued recently as Statement No. 5036. The summary showing of the data, which were taken from the commission's one per cent waybill sample, is presented in an accompanying table, reproduced from the "Comment."

The averages in the table "may be regarded as average rate levels on a comparative basis," the bureau said. It also noted that "the commodity detail . . . discloses that the relatively small territorial variation of the all-commodity averages was the result of more substantial, but partially offsetting, variations in the five commodity groups."

Emergency Board Reports In Short Line 40-Hr. Case

As briefly reported on page 7 of last week's *Railway Age*, a 48-for-40 work week, with an additional seven cents an hour wage increase, has been recommended in an emergency board report in the case involving a group of short line roads and 16 non-operating railroad labor organizations. The board's recommendations, which went recently to President Truman, would impose on 16 of the short lines the terms of the March 19, 1949, agreement wherein the railroad industry generally accepted the 48-for-40 principle and a seven cents wage increase for non-ops.

The emergency board was appointed August 11 to study the dispute which at that time concerned 26 short line roads. (See *Railway Age* of August 19, page 50.) In its report, the board noted that the short lines rejected the 1949 agreement "solely because of asserted financial inability to accept it." The board then reported each road's case individually, and found that 16 of the roads were financially able to make the adjustments, "including the retroactive features thereof."

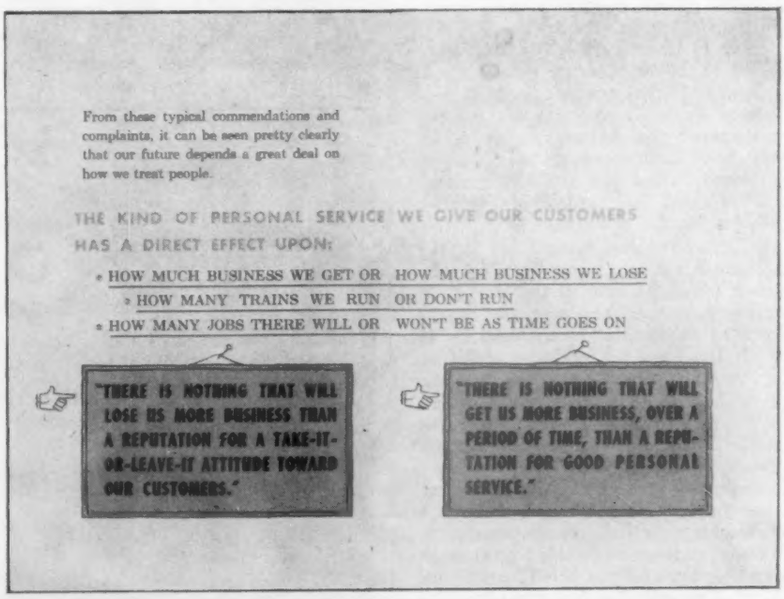
In the case of three of the roads, the board found they were "poverty stricken" and deserving of special treatment. In these cases, the board recommended that the roads and their employees try further negotiation and attempt to reach agreements based on particular local circumstances. The three roads are the Meridian & Bigbee River, the Huntingdon & Broad Top Mountain, and the Winona.

The board also found that three of the so-called short lines in the case were actually stockyard companies that perform railroad services incidentally. In these cases the board recommended that wages be adjusted to the practices of the stockyards industry, and that "wage rates . . . should be related to industrial and local factors rather than exclusively to the circumstances of American railroads in general." Meanwhile, four of the roads that were included in the original group reached settlements on their own, the report said.

Senate Group Starts Probe Of B.R.T.-O.R.C. Wage Case

The Senate's Subcommitteee on Labor-Management Relations has started an investigation of events leading to the seizure of the railroads by President Truman on August 27. The President acted in the face of a nationwide strike threat posed by the Brotherhood of Railroad Trainmen and Order of Railway Conductors, and the carriers have been operated since that time by the secretary of the army.

The strike threat was an aftermath of the refusal of the two unions to


From these typical commendations and complaints, it can be seen pretty clearly that our future depends a great deal on how we treat people.
THE KIND OF PERSONAL SERVICE WE GIVE OUR CUSTOMERS HAS A DIRECT EFFECT UPON:
• HOW MUCH BUSINESS WE GET OR HOW MUCH BUSINESS WE LOSE
• HOW MANY TRAINS WE RUN OR DON'T RUN
• HOW MANY JOBS THERE WILL OR WON'T BE AS TIME GOES ON
"THERE IS NOTHING THAT WILL LOSE US MORE BUSINESS THAN A REPUTATION FOR A TAKE-IT-OR-LEAVE-IT ATTITUDE TOWARD OUR CUSTOMERS."
"THERE IS NOTHING THAT WILL GET US MORE BUSINESS, OVER A PERIOD OF TIME, THAN A REPUTATION FOR GOOD PERSONAL SERVICE."

LATEST ITEM in the Southern Pacific's program to encourage among its employees a high standard of personal service and courtesy to shippers and travelers is a lively little two-color booklet now being issued to all S. P. people whose jobs bring them into direct contact with the public. Titled "Are They Talking About YOU?," the booklet carries numerous typical quotations from commendation and complaint letters received by the company. It is designed, as the pages reproduced above indicate, to give public contact employees a clear idea of how their methods of dealing with people can either win or lose good will, and thus directly affect traffic volume and the number of railroad jobs

Car Surpluses and Shortages

Average daily freight car surpluses and shortages for the week ending September 16 were announced by the Association of American Railroads on September 21 as follows:

	Surplus	Shortage
Plain Box	0	18,557
Auto Box	0	244
Total Box	0	18,801
Gondola	0	5,659
Hopper	8	6,761
Covered Hopper	0	239
Stock	104	32
Flat	185	999
Refrigerator	3,308	19
Other	223	246
	3,828	32,756

accept the recommendations of an emergency board which passed upon their demands for various changes in working rules applicable to road and yard service, including a 40-hr. week for yardmen with no loss in the take-home pay which yard employees now receive for 48 hrs. (See *Railway Age* of September 2, page 71.) The Senate subcommittee which is investigating the case is headed by Senator Murray, Democrat of Montana. It is a unit of the Senate Committee on Labor and Public Welfare, and the investigation thus far is a staff inquiry, no public hearings having been scheduled when this issue went to press.

Such an investigation had been suggested at the time of the seizure by a member of the parent committee—Senator Morse, Republican of Oregon, who served as chairman of a 1941 emergency board which mediated a settlement after the unions involved had rejected its report. Mr. Morse called upon the committee to get "the facts," meanwhile advising his senate colleagues not to assume that "all the wrong is on the side of the workers."

The strike call came after the breakdown of White House conferences at which Dr. John R. Steelman, assistant to President Truman, had undertaken to mediate a settlement. As reported in the *Railway Age* of September 16, page 70, Dr. Steelman has continued his mediatory efforts, the union and management representatives having come together for further conferences in Washington, D.C., on September 6. Since that time both sides have been standing by, and the B.R.T. president, W. P. Kennedy, has become otherwise occupied at that organization's convention which opened at Miami Beach, Fla., on September 20.

Meanwhile, representatives of management and the Switchmen's Union of North America are at work writing contracts to carry out the recent settlement of that union's 40-hr. case. The settlement was on the basis of a Steelman proposal which was rejected by the B.R.T. and O.R.C. (See *Railway Age* of September 9, page 68.)

Another Negro Complaint Filed with the I.C.C.

A complaint involving alleged racial discrimination on the Pennsylvania-Seaboard Air Line's "Silver Meteor" passenger train between New York and Tampa, Fla., was filed this week with the Interstate Commerce Commission. Lillie Belle Perez, a Negro living in New York, asked the commission to order the roads to correct the alleged injustices on grounds that the discrimination claimed is a violation of section 3(1) of the Interstate Commerce Act.

The events upon which the complaint is founded took place in April, 1948. The complainant said she purchased a reserved coach ticket—"seat No. 56, car No. 18W, train No. 57"—for a trip from New York City to Tampa. She was told, she said, that she would ride a through car, with no change between New York and destination.

Between Richmond, Va., and Petersburg, the complaint went on, the conductor forced her to move into "an old car next to the baggage car, a so-called 'Jim Crow'," and she rode in this car to Wildwood, Fla. At that point, "against her will and solely because of her color," she had to change trains for the remainder of her trip. The complaint said that no white persons made the change at Wildwood, and that the "Silver Meteor" continued on to Tampa.

The complaint then went on to claim that such actions constitute interference with interstate commerce, and therefore violate the Interstate Commerce Act. In asking the commission to take action in the case, the complainant noted that no claim for damages was being made to the I.C.C., but added that a damage suit for $100,000 in the case is pending before the U. S. District Court for the Southern District of New York.

Meanwhile, as this racial-discrimination complaint came before the I.C.C., the commission had as yet taken no action with respect to the Supreme Court's decision of June 5 in the so-called Henderson case. (See *Railway Age* of June 10, page 71.) That case, which involved dining-car arrangements for Negro passengers on the Southern, was sent back to the commission by the court. In response to a question on the case this week, Chairman J. Monroe Johnson said the commission's action would be forthcoming within a few days. He would not indicate what direction the commission's action might take.

THE "SILVER VISTA" observation car on the Denver & Rio Grande Western's mixed train between Silverton, Colo., and Durango, does a "land-office business" during the tourist season

Shippers Criticize I.C.C.; Ignore Passenger Losses

(Special to Railway Age)

Blaming "bungling in Washington" for the increasing seriousness of the railroad car shortage; applauding a talk that "all forms of transportation must live together, and solve problems together"; and evincing little visible interest in a railroad plea that shippers help the carriers to get rid of noncompensatory passenger service, over 300 members of the New England Shippers Advisory Board held their regular fall meeting at Bretton Woods, N. H., September 13-15.

During the three-day sessions announcement of the newly imposed increases in demurrage rates (see page 85 of last week's *Railway Age*) brought sharp criticism of the Interstate Commerce Commission and "other Washington bureaucracy."

Similar denouncement of the I.C.C. came from shippers after Arthur H. Gass, chairman of the Car Service Division, Association of American Railroads, said the I.C.C. has no authority over shippers and receivers, but "could order railroads not to handle cars unless they are loaded to a prescribed minimum."

"Repetition of Bungling"

"Anyone who thinks we can afford the luxury of a war on a 5-day week basis," he added, "ought to have his head examined. When you put a man in the fighting field 10 tons of material go with him; and that is followed by a ton a man a month. The railroads today have more cars than at Pearl Harbor-time. With Diesels and C.T.C. they are in a position to handle traffic more efficiently. Just as soon as we can eliminate the complacency of business-as-usual on a 5-day-week in wartime, the car shortage will disappear to a great extent."

Several shippers, in angry tones, said "such orders are just a repetition of the bungling in World War II. They not only penalize shippers, but trucks are not asked to do any such things, with the result they go right on their merry way; more tonnage is diverted from railroads to trucks; what railroads gain in revenue, they lose in claims; and they lose more traffic which they will never get back from trucks."

Despite sharp criticism of the I.C.C.'s most recent order for prompt handling of loads and empties by both shippers and railroads, the board voted to reactivate its car efficiency committee, with C. L. Doucette, traffic manager of the Monsanto Chemical Company, Everett, Mass., as chairman.

The invitation for the active support of shippers to help railroads in getting rid of unprofitable branch-line passenger trains came at the closing session. This was the open-forum session, established by the board three years ago, at which several controversial subjects have been extensively debated at former meetings. The plea by the railroads was placed before the forum by Robert M. Edgar, assistant to the president of the Boston & Maine-Central, who said:

"According to the I.C.C. formula, the New York, New Haven & Hartford in 1949 had a deficit from all passenger-train operations of $9,592,000; the B.&M. a deficit of $13,211,000, and the Me. C. a deficit of $2,600,000. This is a serious matter to New England shippers, because freight revenues, which on the New Haven, B.&M. and Me. C. account for 56 per cent, 75 per cent and 85 per cent of revenue, respectively, have to make up this deficit in passenger service.

"The question as to whether national policy is that freight revenues have to offset this deficit has been clearly answered by the commission in recent years.

"Passenger service loss is not all caused by the carrying of passengers but involves all passenger train services and includes so-called head-end traffic—mail, express, baggage and milk.

"There are many branch-line and some main-line trains which carry very few passengers which should by all laws of economics be discontinued. We are trying to take these off, but strenuous opposition always appears when the last residue of passengers, many of them using the train only occasionally or as a standby, appear in protest before state commissions. In these hearings, particularly on branch lines, freight shippers should take an active part because here again is a plain case of a severe drain on a railroad's revenues which have to be underwritten by freight revenues.

Costing the Shippers Money

"There is no doubt that passenger train services are costing the freight shippers of the country very substantial amounts of money. There is no way to reduce this that I can suggest to you other than to follow the situation closely and do everything you can to make your influence felt in the political arenas, which in the ultimate very nearly control the destinies of the railroads which are burdened with these passenger service losses.

"Give us your active support before the commission in the mail pay case and before Congress in the fight to get the Post Office Department out of the freight business where they are now, to the detriment of the Railway Express Agency. Support any attempts we might make to put the expensive commutation service on something more nearly approaching a self-sustaining basis and make yourselves vocal in those cases before state commissions where attempts are made to discontinue passenger trains which are run at a loss for the convenience of a very few people. With railroads under private ownership and operation you are in a position where self-interest if nothing else can cause you to act to your own benefit. You know just as well as I that under government ownership and control of our railroads, you would be footing the bill for even larger amounts."

Only two shippers commented on Mr. Edgar's remarks. One asked whether the fact that a community was to lose its rail passenger service had any effect on real estate values; Mr. Edgar replied he did not believe so. The other shipper voiced his opinion that commuting service deficits should be paid, in some manner, by the communities which get the service.

At the second day's dinner session Donald D. Conn, executive vice-president of the Transportation Association of America, had as his subject "Two Wars to Win." He told board members that:

"There is entrenched in the high places of this country a group like the group who patiently bided their time while they laid the ultimate groundwork for nationalization in England. It is a planned pattern which knows no deadline but which capitalizes on the ineptitudes and selfishness of people. That is why we must guard against the manipulations of the emergency powers of the War Production Act which plays right into the hands of these planners.

"There are no insurmountable economic obstacles to a solution of the transportation problem. It all boils down to a very few issues which are crucial only because major self-interests make them so. A way must be found to assure that all modes of competitive transport are given impartial consideration through administration of federal regulation and distribution of federal aids. Once these keystones are set for modern national policies, the older and new forms of transport must learn to live together in the family of transportation.

"If common carrier transportation is to be maintained . . . we will have to live together, solve our problems together, and find for each its rightful place in the pattern of competitive enterprise.

Labor's Place

"Labor has a major place in our economic system and a major responsibility. It must have its fair share, and full exercise of its right. And surely no leader of labor, if he is a true American, wants the collapse of the enterprise system, wants the Communists to move in or the Fabians to take over. Yet, there are times and events which try our patience and create reasonable doubt. For example, in seven years the government has taken over the railroads four times because the normal functioning of the Railway Labor Act has not been good enough to settle labor disputes. And every takeover is a dangerous

ABOUT 2,500 CU. YD. of quartzite rock are blasted daily from a mountain of the Uintah range at the Union Pacific ballast plant shown here. After blasting, the chunks of rock are scooped up by two Northwest power shovels and loaded into Euclid power dump trucks which dump their loads into the hopper of a crushing plant. The rock passes through a Lippman jaw crusher for reduction to 8-in. sizes and through an Allis-Chalmers cone crusher which reduces it to ballast sizes. Stone of ballast size is carried by a belt conveyor to a stock pile near a railroad tipple for loading into ballast cars. The smaller sizes and screenings are carried by another conveyor to a separate storage pile. This material is used as an aggregate for concrete used in sufacing station platforms

step toward permanent takeover of all transportation.

"I believe the good men of labor will acknowledge that a fair formula for division of gross dollars between capital and labor can be determined through voluntary cooperation and without building a predatory political machine which will turn upon its advocates as surely as dictators discard every allegiance to principle, once their power becomes absolute."

Second-Quarter Truck Traffic Up 24.5 Per Cent

Freight hauled by intercity Class I motor carriers increased 24.5 per cent in the second quarter of 1950, compared with the same period last year, according to American Trucking Associations. The quarterly traffic index, based on 1941 as 100, was at an all-time high of 211 for this year's second quarter, the previous high having been the first-quarter figure of 182. The index for 1949's second quarter was 170.

The A.T.A. statement showed that all regional trucker groups reported traffic increases in the second quarter as compared with 1949. The increases ranged from 31.9 per cent in the Central region to 8.6 per cent in the Pacific region. The breakdown by commodities showed increases in all 10 groups except that embracing agricultural commodities, which was down 10.7 per cent. The increases ranged from 32.8 per cent for motor vehicles to 5.8 per cent for refrigerated solid products.

The comparisons were based on reports of 1,410 common and contract truckers. They hauled 46,076,125 tons of freight in this year's first quarter, compared with 37,002,872 tons in the like 1949 period. The 24.5 per cent overall increase was the net result of increases of 25.4 per cent and 18.4 per cent for common and contract carriers, respectively.

Motor Act Amendment

Under provisions of a recently-enacted amendment to the Interstate Commerce Act's Part II, the Interstate Commerce Commission will get jurisdiction over transportation within continental United States (exclusive of Alaska) of motor-carrier traffic which originates in or is destined to a territory of the United States. The amendments were added by Public Law 748 which came out of a bill, H.R. 8417, sponsored by Representative Thompson, Democrat of Texas.

The amendments modified and added provisions to the act's sections 203, 206, and 209. The situation they are designed to cure was pointed up by a recent commission decision condemning proposed reductions in truck rates on refined sugar, originating in Cuba, from Houston, Texas, to interior Texas points. The commission there had jurisdiction because the traffic originated in a foreign country, but the decision noted that there were also in effect like rates on sugar originating in Puerto Rico over which the commission had no jurisdiction. The decision by the commission's Division 3 was in I.&S. Docket No. M-3221.

Praises RRs—But Would Build Competing Canal

"Notwithstanding all their difficulties, the railways are continuing to give this country yeoman service," Canadian Transport Minister Lionel Chevrier told the Montreal, Que., Rotary Club last week—in the course of which, in another speech at Cornwall, Ont., he urged immediate construction of the St. Lawrence Seaway or, as an alternative, construction of a 27-ft. deep waterway on the Canadian side of the international boundary.

At Cornwall, Mr. Chevrier declared that "from the military, economic and strategic viewpoints, the combined development of navigation and power on the St. Lawrence should be carried out at once. . . . If the Congress of the United States does not want to take action . . . Canada should explore the possibility of constructing a deep waterway on the Canadian side of the boundary."

His Montreal address was a survey of the development and present position of Canadian air, ocean shipping and rail transportation; the latter he called "the backbone of Canada's economy." "All of us," he continued, "can see the difficulty which has been facing our rail transportation system in the last few years. It can be summarized in a nutshell by stating that the railways had to meet higher operating costs with relatively limited increase in the unit price charged for the services rendered."

Mr. Chevrier refrained from expressing any opinion on the long-range effects of the recent nine-day strike of non-operating railroad employees pending final arbitration of the issues remaining unsettled.

Allegheny Board Sees 65% Increase in Car Loadings

An increase of 65.3 per cent in freight car loadings in the board's territory during 1950's fourth quarter, as compared with the corresponding period of 1949, was predicted at the 63rd regular meeting of the Allegheny Regional Advisory Board, which was held at Pittsburgh, Pa., on September 13 and 14. The fact that loadings in the board's area were adversely affected by long strikes in the closing months of last year was cited as the reason for the anticipated abnormal increase.

The board voted to reactivate local car efficiency committees, and instructed those committees to center their work on improvement of the "dirty car" situation, which was the subject of a heated discussion during the meeting.

Principal speakers were C. R. Megee, vice-chairman of the Car Service Division, Association of American Railroads, who reported on the national transportation situation, and P. M. Shoemaker, vice-president of the Delaware, Lackawanna & Western, who addressed the September 14 luncheon meeting.

Mr. Shoemaker, pointing out that "obligations of railroad managements to their stockholders have justified, up until the comparatively recent past, some postponement of decisions concerning the buying of new cars and the repair of old cars," asserted that "immediate relief" in the present car-shortage situation "can only come from doing more with what we have." Since orders for new cars and stepped-up repair programs, he said, "do not, overnight, make more cars available . . . our first responsibility is to analyze every aspect of car handling which is within railroad control."

He then described in detail what the Lackawanna is doing, with special emphasis on car handling meetings held within the past 30 days at each of its major terminals. These, he said, were not "brass hat" meetings, but included every man concerned with car handling; at them, he added:

"We told our men frankly why a car shortage now exists, what long-term measures had been taken by the railroads generally, as well as our own, and how great our obligation is today from the standpoint of national interest, from the standpoint of our short-time, selfish interest and from the standpoint of our longer-range competitive picture, to supply a car for every possible load. We impressed upon every man that our shippers want cars right now, and that it takes an empty car to get a load.

"We brought this home to our men by describing business apparently being lost upon our own railroad because of our inability to supply cars of the kind and type which our shippers need. We then called upon our men in every category of employment to exercise their know-how, understanding that efficiency in car handling must now supersede economy of operation, to get more out of every car. . . . The reaction of our men to these meetings has been splendid."

Mr. Shoemaker concluded his talk by listing measures which shippers could take "to accomplish far more transportation with the cars we have."

Illinois Central Balances Passenger Train Car Wheels

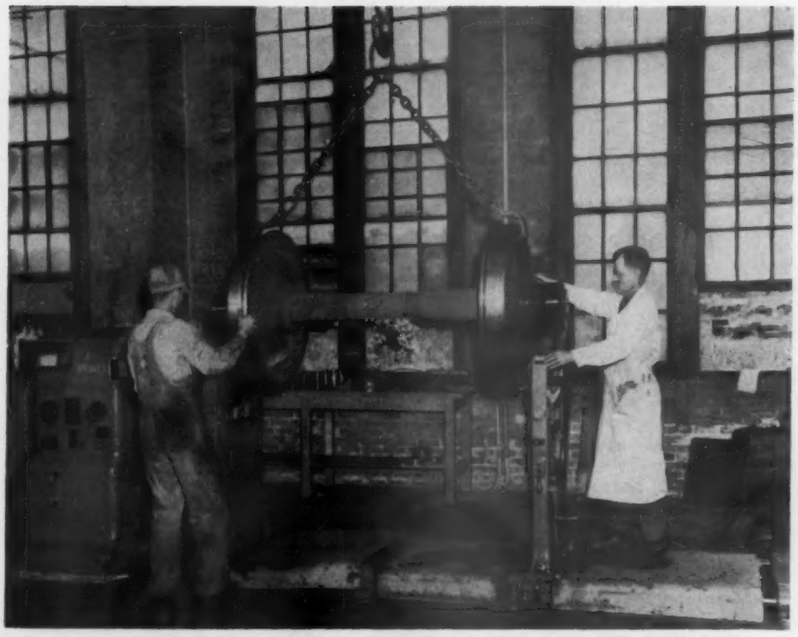
The Illinois Central now operates a considerable portion of its passenger train car equipment, including that in such trains as the "Daylight Special" to St. Louis and the "City of New Orleans," with dynamically-balanced wheels.

In discussing the benefits of dynamically-balanced wheels, J. F. Monger, general shop superintendent at the Burnside (Chicago) shops of the I.C., said, "We have noted a much smoother ride which is especially evident in dining cars where heavy kitchen equipment makes dynamic unbalance especially noticeable. Passengers also no-

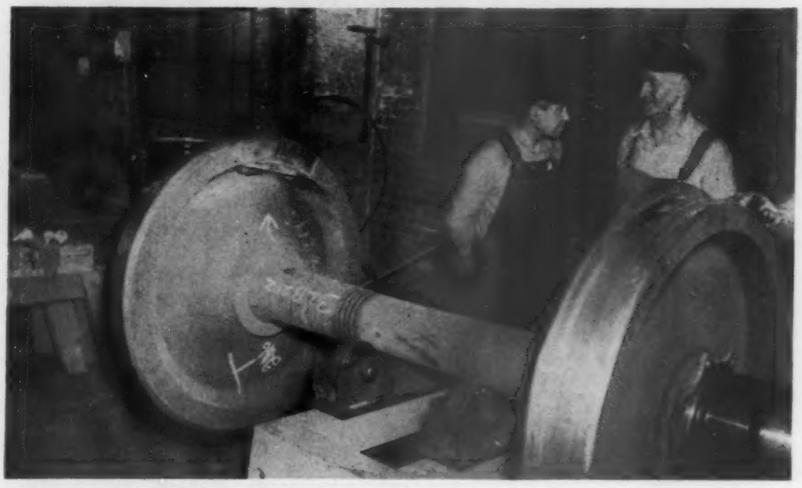
tice unbalance more easily due to the vibration of glasses and dishes on the table." G. R. Kimbel, passenger traffic manager, also said, "The dynamic balancing of car wheels is another indication to the public of our desire to give them the finest, most comfortable ride possible."

The I.C.'s interest in dynamic balancing began with the installation of a Bear dynamic balancing machine at the Burnside Diesel shop for balancing main-generator and traction-motor armatures. As soon as the point was reached where armatures, other generator parts and air conditioning equipment were dynamically balanced regularly, maintenance costs were reduced 50 per cent. This lead to experimental balancing of car wheels, the results of which were so favorable that a special wheel-balancing set-up, developed by Mr. Monger and J. J. MacLeay, general foreman car shop, in cooperation with the builder of the balancing machine, has been installed at the Burnside car-wheel shop.

Experience indicates that the average unbalance is between 2½ and 3 lb. per wheel, with a maximum of 5 lb. Wheels are completely balanced, statically and dynamically, in an average of 20 minutes per pair.



Lowering a pair of wheels into the dynamic balancing machine at Burnside shops



Babbitt applied to the underside of a wheel rim to effect a balance

Gross and Net for July And First Seven Months

The net railway operating income of $432,687,410 and the estimated net income of $269,000,000 which Class I railroads earned in this year's first seven months, as noted in the *Railway Age* of September 9, were derived from gross revenues of $4,995,368,229. The July and 7-month comparisons of 1950 with 1949 are given in the accompanying table, which was part of the latest monthly statement issued by the Association of American Railroads. The statement also noted that 23 Class I roads failed to earn interest and rentals in the first seven months of 1950, of which 11 were in the Eastern district, 3 in the Southern region, and 9 in the Western district.

Class I roads in the Eastern district in July had an estimated net income of $22,000,000 compared with $1,000,000 in July, 1949. In the seven months, their estimated net income was $102,000,000 compared with a net income of $80,000,000 in the same period of 1949.

Their net railway operating income in July amounted to $34,694,646 compared with $14,042,474 in July, 1949. Those same roads in the seven months had a net railway operating income of $188,607,611 compared with $173,854,227 in the same period of 1949.

Gross in the Eastern district in the seven months totaled $2,246,055,408, a decrease of 2.8 per cent compared with the same period of 1949. Operating expenses totaled $1,799,285,632, a decrease of 4.7 per cent below 1949.

Class I roads in the Southern region in July had an estimated net income of $7,000,000 compared with $1,000,000 in July, 1949. In the seven months, their estimated net income was $51,000,000 compared with a net income of $34,000,000 in the same period of 1949.

Those same roads in July had a net railway operating income amounting to $10,271,458 compared with $4,828,232 in July, 1949. Their net railway operating income in the seven months amounted to $76,408,347 compared with $58,836,615 in the same period of 1949.

Gross in the Southern region in the seven months totaled $713,635,981, an increase of 2 per cent compared with the same period of 1949, while operat-

CLASS I RAILROADS—UNITED STATES*

	1950	1949
MONTH OF JULY		
Total operating revenues	$771,660,954	$700,207,526
Total operating expenses	578,610,150	569,270,199
Operating ratio —per cent	74.98	81.30
Taxes	94,034,726	66,760,085
Net Railway Operating income (Earnings before charges)	84,059,798	50,508,420
Net income, after charges (estl.)	59,000,000	26,000,000
SEVEN MONTHS ENDED JULY 31, 1950		
Total operating revenues	$4,995,368,229	$5,069,583,262
Total operating expenses	3,932,752,070	4,124,614,150
Operating ratio —per cent	78.73	81.36
Taxes	526,602,700	484,266,390
Net railway operating income (Earnings before charges)	432,687,410	366,392,857
Net income, after charges (esti.)	269,000,000	201,000,000

*Does not include Canadian Pacific lines in Maine and Vermont for the month of July.

ing expenses totaled $548,766,255, a decrease of 2.8 per cent below 1949.

Class I roads in the Western district in July this year had an estimated net income of $30,000,000 compared with $24,000,000 in July, 1949. Their estimated net income in the seven months was $116,000,000 compared with $90,000,000 in the same period of 1949.

Their net railway operating income in July amounted to $39,093,694 compared with $31,637,714 in July, 1949. Those same roads in the seven months had a net railway operating income of $167,671,452 compared with $133,702,015 in the same period of 1949.

Gross in the Western district in the seven months totaled $2,035,676,840, a decrease of 1.1 per cent compared with the same period of 1949, while operating expenses totaled $1,584,700,183, a decrease of 5.2 per cent below 1949.

A New Approach to Safety

In designating September as "No Accident, No Injuries" month, the Missouri-Kansas-Texas is trying a new approach to the problem of eliminating personal injuries and accidents. Instead of marking the month with a campaign of posters and safety rallies, the Katy arranged for these and other educational devices to be utilized before the month began, thereby affording a chance to test the effect of predetermination in reduction of accidents and injuries.

During the latter part of the summer, large posters appeared on the road's stations and other buildings reminding employees that September would be celebrated as "No Accident, No Injuries" month. On the first of September a small card accompanied each pay check reminding the employee that "We are depending on you to make September a red letter month on our Katy calendar by thinking and working safely." Thus each employee was invested with a personal responsibility to make the campaign a success well before September began.

To keep the importance of this responsibility constantly before each of the road's 10,000 employees, B. A. McDonald, rules and safety superintendent, enlisted the cooperation of local brotherhoods, their auxiliaries and local ministers.

Safety observers have been stationed throughout the entire Katy system, and the results of the "safety by pre-determination" campaign will be made public after the month has ended.

Selected Income and Balance-Sheet Items of Class I Steam Railways in the United States

Compiled from 128 reports (Form IBS) representing 132 steam railways

(SWITCHING AND TERMINAL COMPANIES NOT INCLUDED)

Income Items	United States For the month of May 1950	1949	For the five months of 1950	1949
1. Net railway operating income	$67,031,549	$57,493,426	$253,374,892	$253,463,670
2. Other income	22,589,498	15,206,197	90,065,046	81,542,449
3. Total income	89,621,047	72,699,623	343,439,938	335,006,119
4. Miscellaneous deductions from income	4,087,417	3,186,346	18,848,477	16,293,712
5. Income available for fixed charges	85,533,630	69,513,277	324,591,461	318,712,407
6. Fixed charges:				
6–01. Rent for leased roads and equipment	11,941,783	9,398,791	48,326,410	46,187,332
6–02. Interest deductions [1]	25,012,535	24,848,286	124,909,457	123,468,871
6–03. Other deductions	237,066	199,742	1,071,010	945,376
6–04. Total fixed charges	37,191,384	34,446,819	174,306,877	170,601,579
7. Income after fixed charges	48,342,246	35,066,458	150,284,584	148,110,828
8. Other deductions	3,121,401	2,980,682	15,956,708	15,267,628
9. Net income	45,220,845	32,085,776	134,327,876	132,843,200
10. Depreciation (Way and structures and Equipment)	35,552,043	33,919,741	175,138,904	165,606,274
11. Amortization of defense projects	1,369,037	1,373,441	6,865,112	6,854,324
12. Federal income taxes	31,370,587	20,856,015	115,380,694	106,206,419
13. Dividend appropriations:				
13–01. On common stock	25,795,150	28,478,263	68,517,380	77,818,682
13–02. On preferred stock	7,372,741	9,516,454	31,202,477	32,643,649
Ratio of income to fixed charges (Item 5÷6—04)	2.30	2.02	1.86	1.87

Selected Expenditure and Asset Items	United States Balance at end of May 1950	1949
17. Expenditures (gross) for additions and betterments—Road	$96,948,110	$131,558,596
18. Expenditures (gross) for additions and betterments—Equipment	294,478,961	468,867,485
19. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	484,959,060	518,661,052
20. Other unadjusted debits	106,588,407	139,066,959
21. Cash	863,163,625	766,831,562
22. Temporary cash investments	810,326,026	902,030,082
23. Special deposits	119,627,734	104,094,285
24. Loans and bills receivable	1,086,456	762,148
25. Traffic and car-service balances—Dr.	55,916,328	53,978,870
26. Net balance receivable from agents and conductors	138,592,279	122,811,387
27. Miscellaneous accounts receivable	265,335,555	296,354,339
28. Materials and supplies	712,336,971	865,157,994
29. Interest and dividends receivable	18,651,625	16,354,578
30. Accrued accounts receivable	170,605,259	149,586,616
31. Other current assets	33,385,939	39,292,721
32. Total current assets (items 21 to 31)	3,189,027,797	3,317,254,582
Selected Liability Items		
40. Funded debt maturing within 6 months [2]	$140,073,768	$123,994,679
41. Loans and bills payable [3]	7,840,112	3,300,000
42. Traffic and car-service balances—Cr.	83,334,183	77,836,306
43. Audited accounts and wages payable	511,894,561	556,151,715
44. Miscellaneous accounts payable	183,833,182	189,187,836
45. Interest matured unpaid	29,802,734	31,119,869
46. Dividends matured unpaid	7,957,716	8,743,904
47. Unmatured interest accrued	72,751,375	70,101,874
48. Unmatured dividends declared	47,203,015	47,680,288
49. Accrued accounts payable	180,932,439	177,311,843
50. Taxes accrued	589,703,721	736,604,871
51. Other current liabilities	102,480,698	67,143,107
52. Total current liabilities (items 41 to 51)	1,817,733,736	1,965,181,613
53. Analysis of taxes accrued:		
53–01. U. S. Government taxes	434,617,801	592,014,875
53–02. Other than U. S. Government taxes	155,085,920	144,589,996
54. Other unadjusted credits	265,632,356	272,489,538

[1] Represents accruals, including the amount in default.
[2] Includes payments of principal of long-term debt (other than long-term debt in default) which becomes due within six months after close of month of report.
[3] Includes obligations which mature not more than one year after date of issue.
Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission.
Subject to revision.

C. & E.I. Opens New Yard At Evansville, Ind.

Wansford yard, an entirely new facility of the Chicago & Eastern Illinois at Evansville, Ind., was officially opened on September 8 following an inspection by directors, executives and labor representatives of the railroad, by civic and business leaders of Evansville, and by members of the press. While touring the Evansville industrial district in a special train equipped with a public address system, the group was told by Passenger Traffic Manager E. E. Gordon that the postwar growth of Evansville's industrial activity had outpaced the capacity of the road's original "Belt" yard.

Actual construction of Wansford yard began in October, 1949, although the site, immediately adjacent to the C. & E. I.'s main line to Chicago, was purchased in 1925 when the need for expansion was first foreseen. With Wansford yard in operation, the road is now able to handle 2,500 cars a day —2,000 at Wansford and 500 at Belt, which continues as a local switching and storage facility.

As it now stands, Wansford yard represents an investment of $770,000. Additional installations to be made at a later date will bring this total up to $1 million. The yard is entirely level. A considerable portion of the southwest corner had to be raised on fill and some 4,500 cars of mine refuse were dumped in that area. All tracks are laid on gravel topping and walkways are capped with cinders.

Five receiving and forwarding tracks are located parallel to two eight-track classification yards. This arrangement permits switching from either end of the yards or both at once as condi-

tions require. On the west side of the yard a new 34-car icing platform has been erected, with an electrically operated conveyor belt which will handle either crushed or block ice.

The yard office, just south of the classification yards, is a two-story brick and concrete block structure, completely air conditioned, which contains showers and washrooms on the ground level, and offices for the trainmaster, general yardmaster, rating and waybilling staff and telegraph operator on the second floor. Above this is a tower office, completely enclosed with full-vision glass windows from which the yardmaster can observe all operations within the yard area. Radio equipment for communication with engine and ground crews is being installed, to permit the yardmaster to send instructions to C.&E.I. crews anywhere in the Evansville switching district.

C.&E.I. President C. M. Roddewig told the tour party that Wansford yard would not only improve the road's terminal service to industries in the Evansville area, but would also speed interchange of through cars with the Louisville & Nashville, the New York Central, the Illinois Central and the Southern. The entire project, except the yard office, was constructed by company forces, he said. "The C.&E.I. is currently serving 93 separate industries in the Evansville district and we feel that Evansville is going to continue to grow and expand. With Wansford yard, we are now prepared for that growth."

Money for I.C.C. And Other Agencies

Appropriations totaling $11,608,200 for the Interstate Commerce Commission, $1,359,500 for the National Mediation Board and National Railroad Adjustment Board, and $457,832,724 for the Railroad Retirement Board are provided in the so-called omnibus appropriation act for the fiscal year ending June 30, 1951, which was enacted recently by Congress and signed by President Truman on September 6. The act also appropriates $412,100,000 for the Bureau of Public Roads to spend on highways, $199,711,500 for the rivers and harbors work of the Army's Corps of Engineers, and, for the Civil Aeronautics Administration, $64,500,000 for new airway and airport facilities, plus other funds for operation of existing facilities.

These appropriations are subject to a general provision of the act which is designed to effect a reduction of not less than $550,000,000 in the total amount appropriated for all government agencies. The apportionment of cuts aggregating that amount is to be done by the Bureau of the Budget "without impairing national defense." The fiscal year for which the bill supplies funds began last July 1, but resolutions adopted by Congress have authorized the agencies to continue spending since that date.

The $11,608,200 appropriated for the I.C.C. includes $9,889,600 for "general expenses," $1,000,000 for "railroad safety," and $718,600 for locomotive inspection. While the commission is authorized to apportion the "general expense" funds to its various activities, the act contemplated that $3,831,920 would be used for motor carrier regulation and $100,000 for valuation of pipe lines. President Truman's budget message of last January recommended commission appropriations totaling $11,737,200 for fiscal 1951.

The $1,259,500 appropriated for the Mediation and Adjustment boards is the amount recommended in the President's budget message. It includes $412,200 and $797,300, respectively, for N.M.B. and Adjustment Board "salaries and expenses." The remaining $150,000 is for arbitration and emergency boards. The Adjustment Board's $797,300 includes $296,700 for employment of referees to decide deadlocked cases; and the maximum allowable compensation for referees is increased from $50 to $75.

The $457,832,724 appropriated for the Railroad Retirement Board includes the amount to be appropriated to the Railroad Retirement Account in the Treasury and funds for the board's administrative expenses under the Railroad Retirement Act. The amount earmarked for expenses is $5,446,000.

The $412,100,000 appropriated for the Bureau of Public Roads to spend on highways includes $385,000,000 for the federal-aid post-war highway program, $22,500,000 for forest highways, and $4,600,000 for grade-crossing elimination and protection work. The President's budget message had recommended a total of $455,900,000, in-

News Briefs . . .

. . . A third all-electric streamliner has been placed in service between St. Louis, Mo., and Peoria (East Peoria), Ill., by the Illinois Terminal. Known as "The Sangamon" the new train furnishes a mid-morning departure from East Peoria and a noon-time departure from St. Louis. The use of streamlined equipment on the "City of Decatur" between Decatur, Ill., and St. Louis was discontinued simultaneously with the inauguration of the new service. Air conditioned, modernized interurban equipment is now being used on the Decatur run.

. . . October 11 has been set by the New York City Planning Commission as the date for a hearing on an application filed by Penstation Garage, Inc., for permission to build an 800-car garage over the automobile ramps at the south end of Pennsylvania station. The garage, intended primarily for accommodation of railroad patrons, would be built in space leased from the Pennsylvania Tunnel & Terminal Railroad Co., a wholly owned subsidiary of the Pennsylvania Railroad. Plans call for a four-story unit, 453 ft. by 46 ft., on the Thirty-first street side of the station, and a six-story and roof unit, 218 ft. by 115 ft., immediately north of the four-story structure. Total cost of the two units is estimated at $2 million.

. . . A four-day seminar on employee and public relations will be opened September 26 at the Stevens Hotel, Chicago, by A. F. Hall, assistant to vice-president, employee and public relations, of the Railway Express Agency. The meetings will be addressed by several guest speakers, including Robert N. McMurry, management consultant of Chicago; Robert Newcomb, of Newcomb & Sammons, Chicago; J. B. Hoge, manager of the group insurance bureau, R.E.A.; Albert Hartung, vice-president, personnel and public relations, R.E.A.; and W. W. Martin, superintendent, employee and public relations, R.E.A.

. . . The "Zephyrettes" began service between San Francisco-Oakland, Cal., and Salt Lake City, Utah, over the Western Pacific on September 17. Each of the two trains is a single Budd RDC-2 rail car providing seats for 66 passengers and space for both mail and express. Extensively remodeled for the long-distance service, the new cars will supplement the daily "California Zephyr," leaving both terminals on Sundays, Wednesdays and Fridays. With the withdrawal of conventional equipment from this run, the W.P's passenger service became 100 per cent streamlined.

. . . For the Minnesota-Washington football game on September 30, the Great Northern and the Chicago, Milwaukee, St. Paul & Pacific have joined hands to operate a "Football Special" between Minneapolis and Seattle on the Milwaukee and return via G.N. On the outward trip there will be a 3½-hr. pause at Miles City, Mont., where coach Bernie Bierman will put the Minnesota team through "a little work out" as the fans partake of some western hospitality.

. . . Brief ceremonies, highlighted by the passing of both eastbound and westbound "California Zephyrs," marked the dedication, on September 14, of a monument to the birth of the vista-dome car idea. It was in July of 1944 that Cyrus R. Osborn, now vice-president of the General Motors Corporation, first conceived of the dome car while riding in the cab of a Diesel locomotive on the Denver & Rio Grande Western's scenic line through Glenwood canyon, Colo. The monument marks the exact spot where the idea first occurred to him; it is, incidentally, the place where the vista-domed "California Zephyrs" now pass each other daily. Present with Mr. Osborn for the ceremonies was President Wilson McCarthy of the D.&R.G.W.

cluding $426,000,000 for the post-war program.

The $4,600,000 appropriated for grade-crossing work will permit a cashing in on authorizations made for such work before legislation providing for the post-war highway program was enacted. When such authorizations are all taken up, there will be no more separate appropriations for grade-crossing work. It will be covered in the post-war highway program, which permits the use for grade-crossing work of up to 10 per cent of the funds available for highways.

The $199,711,500 appropriated for the rivers and harbors work of the Army engineers includes $198,811,500 for maintenance and improvement of existing works, and $900,000 to pay the federal government's share of the cost of altering railroad bridges in connection with waterway projects. The breakdown of the Civil Aeronautics Administration's appropriation allocates $37,000,000 to the federal-aid airport program and $27,500,000 for establishment of air navigation facilities. Meanwhile, C.A.A. got a "salary and expenses" appropriation of $98,500,000, a substantial part of which is for operation and maintenance of existing airway facilities.

I.C.C. Staff Member Is Named M.T.S. Consultant

Dr. Beatrice Aitchison, transport economist with the Interstate Commerce Commission's Bureau of Transport Economics & Statistics, has been appointed a consultant in the newly-created Military Traffic Service of the Department of Defense. Dr. Aitchison will be on loan from the I.C.C. and will serve on the staff of E. G. Plowman, director of M.T.S. (see *Railway Age* of August 26, page 54.) Dr. Aitchison has been with the I.C.C. since 1942. During World War II she served as part-time consultant on statistical activities in the Office of Defense Transportation.

E.C.A. Group Begins Study of American Railroads

Six weeks of intensive study of American railroad methods and equipment began on September 11 as delegates from railroads of 12 Marshall Plan countries assembled in Chicago for a preliminary two-day orientation course. The 73 delegates are visiting the United States under the auspices of the Economic Cooperation Administration's Technical Assistance Program and are following a course of study arranged by the Association of American Railroads. (See *Railway Age* of September 9, page 78.)

The group is divided into seven teams, each of which will study its particular field of railroading under guidance of an American expert. The teams will travel extensively throughout middle western and central Atlantic states for a firsthand view of various railroad operations and facilities.

The orientation course included talks by William T. Faricy, president of the A.A.R., who gave a general description of the American railroad industry, and introduced the escort consultants for the various teams; Wayne A. Johnston, president of the Illinois Central, who explained the organization of an individual American railroad; J. H. Aydelott, vice-president, operations and maintenance, A.A.R., who described that association's organization, functions and relations with individual roads; and W. H. Schmidt, Jr., western editor of *Railway Age*, who discussed some of the aspects of private ownership of railroads in this country, with special emphasis on the cooperative, yet competitive, nature of their day-to-day relations.

Erie to Streamline Freighthouse Operations

To streamline Erie freighthouse operations, and expedite movement of shipments, a special staff of freight handling experts has been organized by R. C. Randall, vice-president, operations and maintenance.

"We are positive," Mr. Randall said, "additional savings in shipping time can be made by keeping pace with the very latest handling methods in our freighthouses. The freight handling organization will be composed of men with long years of experience in station service operations and we anticipate their efforts will bring results which will please our shippers."

The new program will be headed by Elmer J. Stubbs, formerly general superintendent of transportation, who has been promoted to the newly created position of assistant vice-president. Part of his new assignment will include the planning and installation of improvements in freight handling operations through increased mechanization and modern materials handling methods. Mr. Stubbs—who will retain jurisdiction over loss and damage prevention activities, freight claim settlements, car accounting and dining car operations—will be assisted in effecting freighthouse improvements by William J. Gallivan, freight agent at Jersey City, N. J., who has been promoted to freight and material handling engineer at Cleveland, Ohio.

Lake-Coal Demurrage Pact Is Approved by I.C.C.

A Reed-Bulwinkle Act agreement covering movement of coal and certain other commodities through lower lake ports has been approved by Division 2 of the Interstate Commerce Commission. Fourteen railroads are parties to the agreement, which provides for establishment of a Lake Coal Demurrage Committee to receive, consider and take action "upon proposals relating to changes in demurrage charges, rules and regulations."

Cars held for unloading into vessels at U. S. ports on Lake Ontario, Lake Erie, and lower Lake Michigan are covered under the present agreement. In approving the application, which was docketed as section 5a Application No. 14, Division 2 said the agreement would continue in effect a committee "which has functioned for many years." The division also rejected contentions of the Department of Justice, which was in its usual Bulwinkle-case role of protestant.

June Accident Statistics

The Interstate Commerce Commission has made public its Bureau of Transport Economics and Statistics' preliminary summary of steam railway accidents for June and this year's first six months. The compilation, which is subject to revision, follows:

Item	Month of June 1950	Month of June 1949	6 mos. ended with June 1950	6 mos. ended with June 1940
Number of train accidents*	833	672	4,543	4,468
No. of accidents resulting in casualties	28	34	218	242
No. of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	138	132	523	538
Injured	121	131	539	514
Passengers on trains:				
(a) In train accidents*				
Killed	—	—	30	1
Injured	1	1	524	172
(b) In train-service accidents				
Killed	3	1	12	10
Injured	151	782	932	1,001
Travelers not on trains:				
Killed	—	—	3	3
Injured	45	53	391	371
Employees on duty:				
Killed	21	32	143	205
Injured	1,682	1,916	9,591	11,621
All other nontrespassers:**				
Killed	107	105	770	766
Injured	404	357	2,773	2,807
Total—All classes of persons:				
Killed	269	270	1,481	1,523
Injured	2,404	2,640	14,750	16,486

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of $275 or more to railway property. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:

Persons:				
Killed	99	94	715	701
Injured	252	204	1,961	1,872

Describes Canada's Role in Raw Material Production

About 400,000,000 tons of high-grade iron ore will have been proven by the end of the year and will be shipped from ore fields recently discovered along the Labrador-Quebec border to tidewater over a 360-mi. railroad, work on which has just begun, Gordon M. Hutt, development commissioner of the Canadian Pacific, said in Jersey City, N. J., on September 19.

Mr. Hutt, addressing a meeting of the Traffic Club of Jersey City, described the part played by Canada in production of raw materials, and added that the Quebec Iron & Titanium

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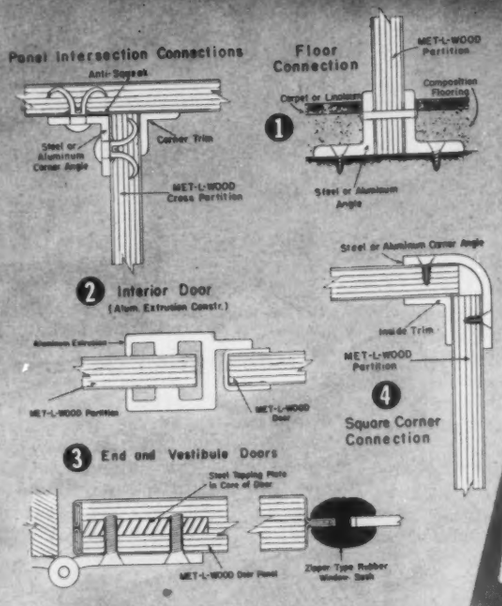

1 Panel intersections with Met-L-Wood can be made invisible from outside with the use of split rivets. Floor connections may be made in a variety of ways, one of which is shown here, using through-rivets and metal screws.

2 Interior doors of Met-L-Wood can be fitted with aluminum extrusion door stops; or the Met-L-Wood partition formed so that the door stop is an integral part of the panel.

3 Steel tapping plate inserts can be put in Met-L-Wood doors at proper places for solidly anchoring hinges and door-opening devices. Note simplicity of using zipper-type window sash with pre-formed Met-L-Wood window openings.

4 Square or rounded corners are made with Met-L-Wood panels and steel or aluminum corner forms. Corner forms can also be fastened with split rivets or through-rivets, as well as with wood or metal screws.

**Met-L-Wood panels 3/8" thick, with steel both sides, have a stiffness factor exceeding that of 1/4" solid steel plate, while weighing only 27% as much as steel!*

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A LARGE PORTION of the 32-mi. Aroostook Valley's revenue is derived from hauling potatoes. The 44-ton Diesel-electric locomotive above is credited with handling 6,700 cars of freight per year, some 5,500 of which are filled with the edible tubers. A former electric road, the A. V. now operates three Diesel-electric locomotives, including this General Electric-Caterpillar unit

Corp., in association with the Kennecott Copper Corporation and the New Jersey Zinc Company, is spending $25,000,000 to open up an iron-titanium mine 27 mi. north of the St. Lawrence river at Havre St. Pierre.

Bergson, Anti-Trust Chief, Quits Justice Department

Assistant Attorney General Herbert A. Bergson has resigned from the Department of Justice, effective September 30. Since June, 1948, Mr. Bergson has been head of the department's Antitrust Division, which is prosecuting the so-called Lincoln Case, involving an antitrust complaint against western railroads and the Association of American Railroads.

Electric Lines Get Increased Mail Pay

Division 3 of the Interstate Commerce Commission has prescribed increased rates for the handling of United States mail by 11 urban and interurban electric railways. The decision was in No. 29943, Electric Railway Mail Pay 1948.

The electric lines applied for increases which would increase their mail pay by not less than 45 per cent. Varying increases for the different types of service were prescribed by the commission, which said it was unable to compute accurately the resultant overall percentage increase.

The rates for closed-pouch service in passenger cars will go up 50 per cent for the 10-bag unit, 60 per cent for the 60-cu.-ft. unit, and 66 per cent for the 90-cu.-ft. unit. For closed-pouch service in baggage or express cars and in compartments of passenger cars the rates will go up 100 per cent for the initial 30 cu. ft., to make the rates the same as for closed pouch service in other cars. For service in so-called independent cars, on which railroad employees handle the mail, the increase is 44 per cent; while service in R.P.O. cars and compartments takes a 37.5 per cent increase.

The commission suggested that the parties could compute the overall percentage increase for the purpose of applying it as a retroactive adjustment of payments received since the date on which the applications were filed—March 5, 1948, in the cases of most applicants. There were 14 applicants, but the commission ruled out any increases for three of them which furnish mail service only by bus. They are the Mason City & Clear Lake, the Northeast Oklahoma, and the Bamberger.

In deciding adversely on these applications, the commission rejected contentions that it retained jurisdiction over mail pay in cases where a railroad furnishes truck or bus service in lieu of rail service. "At the time the railway mail pay acts of 1916 and 1918 were enacted," it said, "the transportation included was by rail only and there is nothing to indicate that any other transportation was intended to be included. When a railroad voluntarily chooses to furnish motor bus or motor truck service in lieu of rail service it does so by agreement with the Post Office Department . . . . but such action does not give us authority to prescribe rates for the substituted service

Freight Car Loadings

Loadings of revenue freight in the week ended September 16 totaled 866,207 cars, the Association of American Railroads announced on September 21. This was an increase of 114,931 cars, or 15.3 per cent, compared with the previous week; an increase of 123,185 cars, or 16.6 per cent, compared with the corresponding week last year; and a decrease of 43,782 cars, or 4.8 per cent, compared with the equivalent 1948 week.

Loadings of revenue freight for the week ended September 9, which included Labor Day, totaled 751,276 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, September 9

District	1950	1949	1948
Eastern	127,154	107,337	137,322
Allegheny	156,570	122,612	168,263
Pocahontas	56,564	36,281	61,617
Southern	107,810	92,242	115,783
Northwestern	130,872	113,683	130,366
Central Western	116,294	101,947	114,582
Southwestern	56,012	49,860	61,078
Total Western Districts	303,178	265,490	306,026
Total All Roads	751,276	623,962	789,011
Commodities:			
Grain and grain products	43,314	40,424	43,087
Livestock	9,437	11,934	11,849
Coal	141,256	90,594	158,740
Coke	14,506	9,494	14,048
Forest products	40,525	35,047	42,997
Ore	80,993	62,299	72,151
Merchandise l.c.l.	77,347	72,037	93,778
Miscellaneous	343,898	302,133	352,361
September 9	751,276	623,962	789,011
September 2	852,321	703,934	895,131
August 26	838,429*	747,211	891,666
August 19	851,025	731,215	900,663
August 12	847,465	728,029	891,276
Cumulative total 36 weeks	25,882,874	25,750,360	29,497,588

*Revised

In Canada.—Carloadings for the week ended September 9 totaled 78,023 cars, compared with 47,641 cars for the previous week, and 73,540 cars, for the corresponding week last year, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
September 9, 1950	78,023	30,473
September 10, 1949	73,540	28,215
Cumulative totals for Canada:	*	*
September 9, 1950		
September 10, 1949	2,637,084	1,108,198

*Not yet available

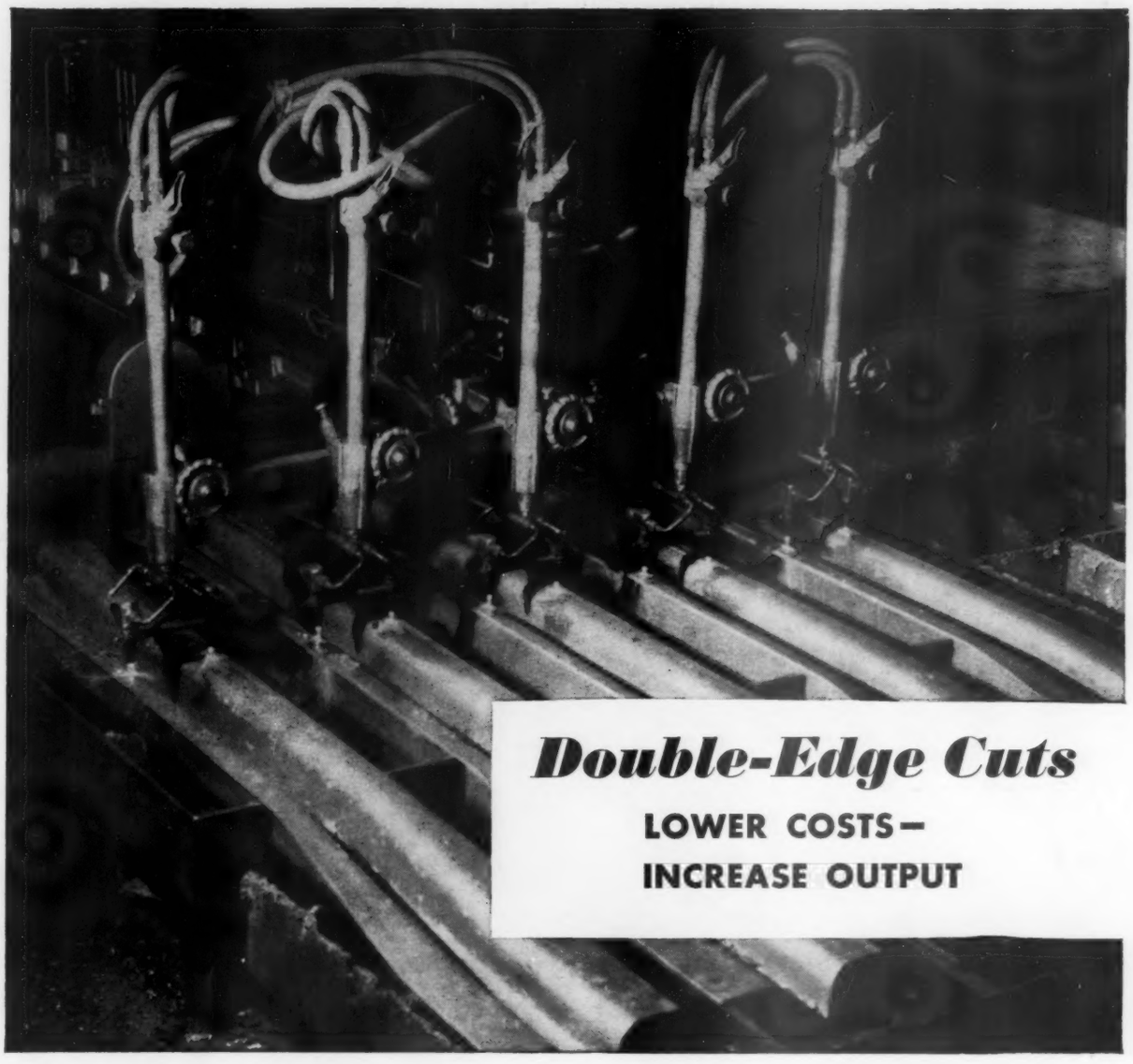
Toledo Station Dedicated

Friday, September 22, was official dedication day for the new union station at Toledo, Ohio. The new building—which, with appurtenant facilities, has cost in the neighborhood of $5 million—was built and is owned by the New York Central, but will be used also by the Baltimore & Ohio, the Chesapeake & Ohio and the Wabash.

August Operating Revenues 18.3% Above Previous Year

From preliminary reports of 82 Class I railroads, representing 81.1 per cent of total operating revenues, the Association of American Railroads has estimated that August gross amounted to $712,570,719, an increase of 18.3 per cent above the $602,446,806 reported for the same 1949 month. Esti-

(Continued on page 55)



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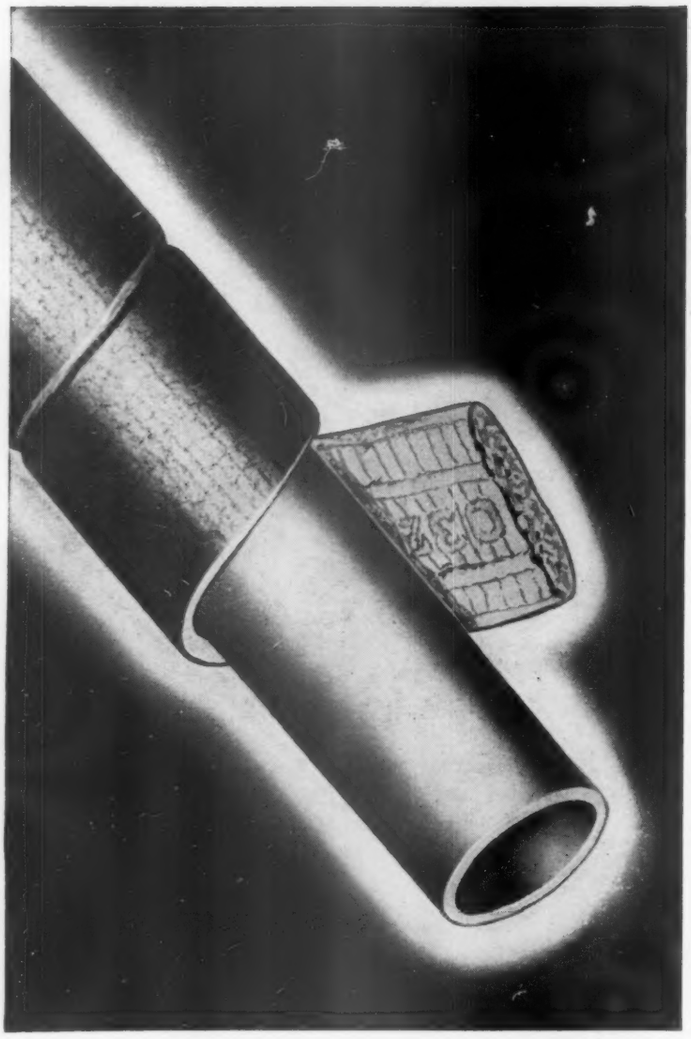

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UNION ASBESTOS & RUBBER COMPANY

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(Continued from page 50)
mated August freight revenue was $599,848,794, as compared with August, 1949's $491,522,332, an increase of 22 per cent. Estimated passenger revenue was $64,238,706, as compared with $64,375,178, a decrease of 0.2 per cent. All other revenue was up 4.2 per cent—$48,483,219, as compared with $46,549,296.

Birmingham Southern Strike May Cut Steel

Members of the Brotherhood of Locomotive Firemen & Enginemen employed by the Birmingham Southern have struck in support of the union's demands for a 40-hr. work week for yard service employees, it was reported this week. Steel production may be cut by the strike on the road, which connects two major steel plants with other lines and provides the only rail service to the steel plants of the Tennessee Coal, Iron & Railroad Co. at Fairfield, Ala., and Ensley.

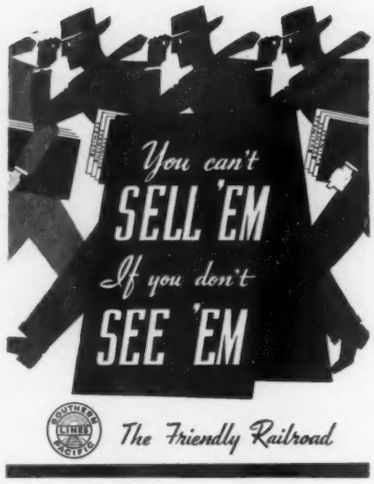
Roads Ask I.C.C. to Deny Petitions on Livestock Rates

The railroads this week filed a reply to recent petitions in which various livestock interests asked the Interstate Commerce Commission to order the roads to show cause why they should not immediately reduce rates on livestock. The railroad reply asked that no investigation be instituted because "there is no merit to the contentions in the livestock petition."

"The failure of the petitioners to name any specific rail carriers as defendants necessarily prevents such petition from having the status of a formal complaint which would provide the basis for a finding by the commission that the rates on livestock were unreasonable or otherwise unlawful," the roads contended. They went on to say that the petitions would impose on the railroads "the burden of proof of showing that present rates are not unreasonable," and that it is a "well settled rule" that proof must be made by the complainant when rates are assailed.

First of the livestock petitions in question was filed June 19 by the American National Live Stock Association and six similar groups. (See *Railway Age* of June 24, page 125.) Since that time others have endorsed the views set forth in the original petition, among these being the meat packing firms of Armour and Swift, and the Eastern Meat Packers Association. The Armour company would have the commission broaden the case to investigate rates on livestock products as well, but in this connection the roads said a study of livestock rates alone would be a "gigantic task."

As to a contention that the railroads are not protecting their traffic and revenue because of high rates on livestock, the roads said this was "an idle and useless averment." They said



the railroads are protecting their revenues "to the best of their ability under existing conditions," and went on to deny that in connection with the various Ex Parte increases the roads ever promised to reduce rates on livestock to a point where net revenue would be reduced. The livestock petition had said the carriers made "repeated promises" to reduce livestock rates during hearings in the Ex Parte cases.

In conclusion, the railroad reply said the livestock interests should be required "to file a formal complaint," presenting specific issues and naming defendants if they wish to pursue this case. But, it added, if the commission does institute an investigation, "it should be broad enough to permit a final order authorizing increases in present rates and charges if the evidence to be submitted warrants."

Railroads Making New Performance Records

"American railroads moved more freight in the average freight train and moved the trains faster in the first six months of 1950 than ever before," William T. Faricy, president of the A.A.R., said in a September 10 statement. The result was, he added, that the average output of transportation for each hour of freight train operation was "higher than ever before attained."

Tons of freight moved one mile for each hour of train operation averaged 19,708 ton-miles in the six months' period this year, an all-time high. In 1949 the averge for the year was 19,023 ton-miles and in 1944, the peak year in World War II, it was 17,623 ton-miles.

Freight trains on the average moved 1.2 per cent faster in the first six months of 1950 than they did in the same period of the previous year and 8 per cent faster than in 1944. The average load per freight train for Class I railroads in the first six months of 1950 was 1,175 tons compared with 1,149 in the same period in 1949, and 1,139 tons in 1944. The average in the first half of 1950 was higher than ever before attained, except in 1948 when it was 1,176 tons, Mr. Faricy said.

"This new high record in freight train operating efficiency," he added, "has been made possible because of improved operating methods, larger and more efficient locomotives, better freight cars, and improved signalling and other devices."

ORGANIZATIONS

The **St. Louis Chapter** of the **Railway Business Women's Association** will hear a talk by E. W. Hull, assistant vice-president, sales, of the Railway Express Agency, at its September 28 dinner meeting, to be held in the Missouri room of Stix, Baer & Fuller, St. Louis, Mo., at 6:30 p.m.

Close to 300 members of the **American Association of Railroad Ticket Agents** enjoyed a "busman's holiday" when they chartered a special train on the Chicago, Milwaukee, St. Paul & Pacific for a pleasure trip to the Wisconsin Dells, September 10, in connection with the group's annual sales meeting, held in Milwaukee, Wis.

The **Western Railway Club** will hold its next meeting on October 2 at the Hotel Sherman, Chicago. The principal speaker will be Senator Joseph R. McCarthy of Wisconsin, who will be introduced by Paul E. Feucht, vice-president, Western region, of the Pennsylvania.

SUPPLY TRADE

Ross R. Moore, formerly manager of the Denver, Colo., branch of the **Electric Storage Battery Company,** has been appointed manager of engineering sales, with headquarters at Philadelphia, Pa., succeeding **W. B. Bowie,** retired.

The **General Electric Company** has appointed **James M. McGarry** as manager of advertising and sales promotion for the apparatus department's St. Louis, Mo., office, mid-states district. Mr. McGarry formerly was head of transport industries publicity and handled special publicity assignments in the apparatus department's news bureau in Schenectady, N. Y.

George O. Nations has been appointed assistant to general manager of sales of the **National Tube Company,** a subsidiary of the **United States Steel Corporation,** and **Albert J. Graf, Jr.,** has been appointed to succeed Mr. Nations as manager of claims. Mr. Nations joined

the sales office of National Tube in 1939 at Denver, Colo. He held various positions in the sales and operating departments and was appointed manager of claims in November, 1948. Mr. Graf joined the tubing specialties division of National Tube at Gary, Ind., as a salesman in 1947, subsequently holding sales positions in the Chicago and New York offices.

OBITUARY

John T. DeMott, treasurer and a director of the Simmons-Boardman Publishing Corporation, publishers of *Railway Age* and other transportation periodicals, died on September 15 at his home in Larchmont, N. Y., following a long illness. Mr. DeMott joined

John T. DeMott

Simmons-Boardman in August, 1920, as assistant treasurer, with offices in New York. He became treasurer in 1928, and in 1931 was elected a director of the corporation. Prior to joining Simmons-Boardman, Mr. DeMott had been treasurer of the McGraw Publishing Company.

CAR SERVICE

I.C.C. Service Order No. 861 has been supplanted by Revised Service Order No. 861, effective September 7. The effect of the original order was to preserve for open-top cars, reconsigned at lower Great Lakes ports for movement beyond by rail, the more liberal free time allowances and lower demurrage charges which are applicable on cars remaining in rail-lake service. The revised order continues those provisions and adds another to stipulate that cars reconsigned under the order shall not be subject to reconsigning charges. The order's expiration date, September 18, remains unchanged.

I.C.C. Service Order No. 865, which imposes increased demurrage charges running up to $20 per day, has been modified by amendment No. 2, which added cars of explosives held at ports to those exempt from the order. The amendment became effective at the same time as the original order—7 a. m., September 20.

I.C.C. Service Order No. 867, which restricts the use of trap and ferry cars, was reissued in revised form before it became effective at 11.59 p.m. September 20. The principal change from the original order (noted in *Railway Age* of September 16, page 85) is the elimination of the definition which had included intra-terminal or cross-town switching within the scope of the order. As now written, the order applies only to trap and ferry cars containing l.c.l. freight.

I.C.C. Service Order No. 868, which was designed to suspend so-called follow-lot and two-for-one rules insofar as they permit cars to be used without payment of the carload minimum weight for the car or cars actually used, was suspended before it became effective. The order was issued to become effective at 12.01 a. m., September 20, but subsequently suspended until 12.01 a.m., October 4, by Service Order No. 868-A. It is understood that the suspension was for the purpose of revising the order.

EQUIPMENT AND SUPPLIES

Correction

In an article describing the two new 13-car "Cascade" trains of the Southern Pacific, the specialty table on page 32 of the August 19 *Railway Age* failed to contain any reference to draft gears. This equipment for all the "Cascade" cars was of the Waughmat twin-cushion type, furnished by the Waugh Equipment Company, New York.

FREIGHT CARS

The **Atlantic Coast Line** is inquiring for 800 50-ton gondola cars (half of which are to be low-side and half high-side), 100 50-ton or 70-ton drop-end gondola cars, and 100 50-ton hopper cars.

The **Baltimore & Ohio** has ordered 1,000 50-ton box cars and 20 50-ton automobile cars from the American Car & Foundry Co. Present arrangements contemplate purchase of these cars, inquiry for which was reported in *Railway Age* of August 5, page 73, through a conditional sales agreement.

The **Chesapeake & Ohio** has ordered 1,000 70-ton hopper cars from the American Car & Foundry Co. at a cost of $5,200,000.

The **Delaware & Hudson** has arranged to purchase, through a conditional sales agreement, 1,000 50-ton hopper cars from the Bethlehem Steel Company.

The **Elgin, Joliet & Eastern** is inquiring for 300 50-ton hopper cars, 100 70-ton hopper cars, 500 50-ton gondola cars and 100 70-ton gondola cars.

The **Illinois Central** has ordered 1,000 50-ton box cars from its own shops and 120 70-ton covered hopper cars from the American Car & Foundry Co. Authorization to purchase 1,100 new freight cars was reported in *Railway Age* of August 19, page 54.

The **Louisville & Nashville** has ordered 1,000 50-ton box cars from the Pullman-Standard Car Manufacturing Company.

The **Minneapolis, St. Paul & Sault Ste. Marie** has ordered 250 50-ton box cars and 100 50-ton hoppers from its own shops.

The **Missouri-Kansas-Texas** has ordered 300 70-ton gondola cars from the Pullman-Standard Car Manufacturing Company. This order, plus that for 20 Diesel-electric locomotive units reported elsewhere in this issue, and the 500 box cars reported ordered in last week's issue, completes the rolling stock purchases recently authorized by the Katy's directors.

The **Norfolk & Western** has ordered 500 50-ton box cars from the Pullman-Standard Car Manufacturing Company. The inquiry for this equipment was reported in *Railway Age* of August 19, page 54.

The **St. Louis & Belleville Electric** has ordered 50 70-ton hopper cars from American Car & Foundry Co.

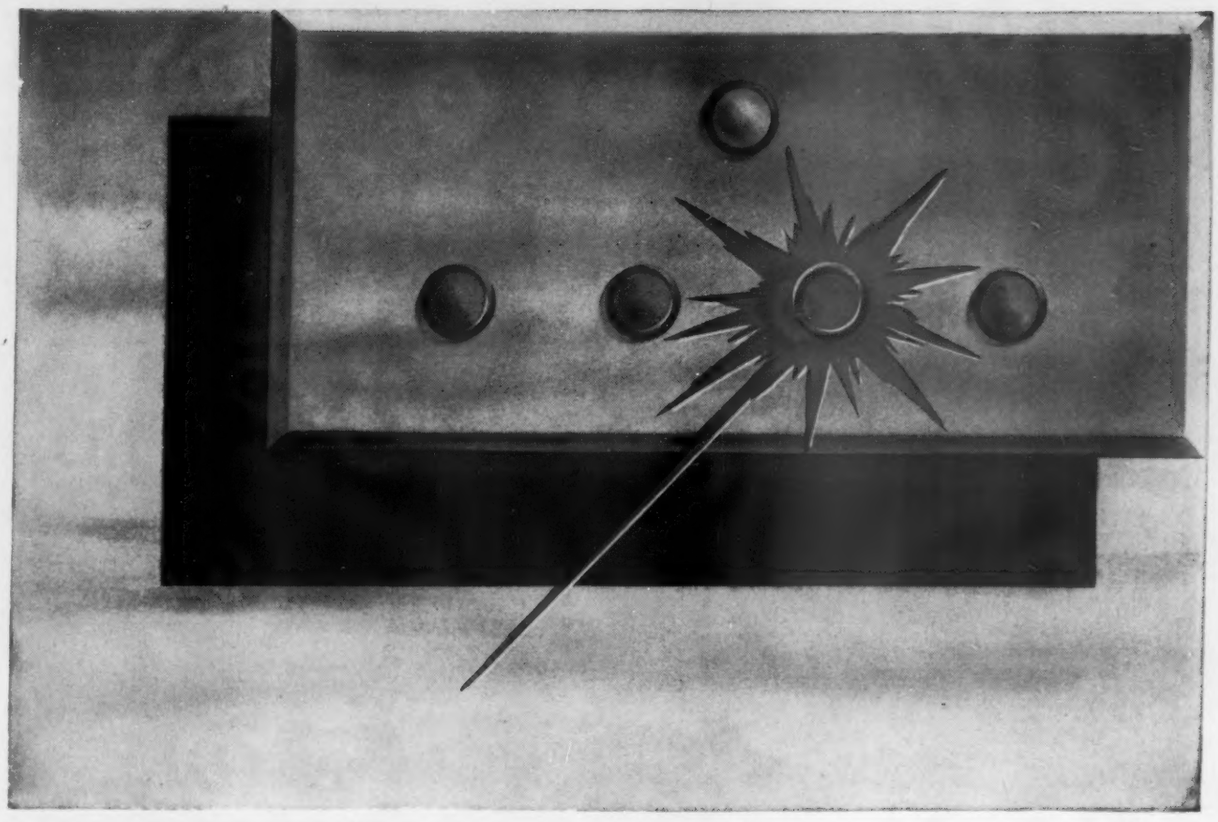
The **St. Louis Southwestern** will purchase 25 70-ton hopper cars from the American Car & Foundry Co.

The **Southern Pacific** has ordered 1,900 box cars, 1,100 gondola cars, 100 hopper cars, 250 covered hopper cars and 50 caboose cars. These orders, plus that for 1,600 50-ton box cars reported in last week's *Railway Age*, page 84, complete the car purchases reported authorized in the *Railway Age* of August 26, page 61. The cars will be built by the American Car & Foundry Co., the Pullman-Standard Car Manufacturing Company and the road's own shops.

The **Spokane, Portland & Seattle** is inquiring for 200 50-ton flat cars.

The **Texas & Pacific** will receive bids on September 28, or shortly thereafter, for construction of 150 gondola cars, 250 hopper cars, 100 covered hopper cars, 100 flat cars and 200 box cars.

The **Union Pacific** is inquiring for 500 70-ton covered hopper cars.



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The Westinghouse-Union Hot Bearing Detector brings an important new safeguard to passenger equipment. It solves the problem of hot bearing detection.

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The device disregards temperature fluctuations due to weather and operating conditions; only the abnormal, threatening rise causes it to react.

Leaflet No. 2464 gives the complete story of principle and operation. We will be glad to send you a copy.

Westinghouse Air Brake Co.

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PASSENGER CARS

The **New York, Susquehanna & Western** has ordered four rail Diesel cars (RDC-1) from the Budd Company. An inquiry by this road for 16 coaches was reported in *Railway Age* of March 18, page 89.

The **Sorocabana** (Brazil) has ordered 15 first-class coaches, 15 second-class coaches, 10 double-bedroom sleeping cars, 6 baggage cars and 5 dining cars from the Budd Company. Deliveries of the meter-gage, all-stainless-steel cars, which will be 62 ft. 4 in. long, are expected to begin early next year. Each of the first-class coaches will have 60 reclining seats, the second-class coaches 60 walkover type seats. The sleepers will accommodate 18 persons. Each diner will have 5 tables for two and 5 tables for four.

LOCOMOTIVES

The **Missouri-Kansas-Texas** has ordered 20 Diesel-electric locomotive units. The American Locomotive-General Electric Companies will build two 2-unit 4,500-hp. passenger locomotives and six 1,600-hp. road-switching units, and the Electro-Motive Division of General Motors Corporation will construct 10 1,500-hp. road-switching units.

The **Southern Pacific** has ordered 50 Diesel-electric locomotive units. The Baldwin Locomotive Works will build 22 1,200-hp. switching and 10 1,600-hp. general purpose units and four 2-unit 3,200-hp. road locomotives. The American Locomotive-General Electric Companies will construct 10 660-hp. switching units. Authorization by the S.P. directors to purchase this equipment was reported in *Railway Age* of August 26, page 63.

The **Terminal Railroad Association of St. Louis** has ordered six 1,200-hp. Diesel-electric locomotive switching units from the Lima-Hamilton Corporation and 4 1,600-hp. road-switching units from the American Locomotive-General Electric Companies.

SIGNALING

The **Atchison, Topeka & Santa Fe** has ordered from the Union Switch & Signal Co. a style C control machine to be installed at Streator, Ill., to control the interlocking at Kernan, five miles east of Streator, together with necessary code equipment, H-5 searchlight signals, and M-22A dual-control switch machines for electric operation of the Kernan layout, which is now mechanical. In addition to controlling the Kernan interlocking, this new machine at Streator will take over control of the existing interlocking of Gulf, Mobile & Ohio and New York Central crossings at Streator, and the existing interlocking at Ancona (approximately six miles west of Streator), which are now remotely controlled by two small machines at Streator. Field installation will be done by railway forces.

The Baldwin Locomotive Works has placed an order with the Union Switch & Signal Co. for eight sets of four-indication type E cab signal equipment, to be installed in Diesel-electric locomotives being built for the **Pennsylvania.**

The **Cleveland, Cincinnati, Chicago & St. Louis** has ordered equipment from the General Railway Signal Company to install a type K, class M traffic control system from Mattoon, Ill., to Pana, 39 mi. The control machine, to be located at Mattoon, will have a 94-in. panel equipped with 44 track lights and 40 levers for control of 20 switch machines, 5 switch locks and 70 signals. Model-5C switch machines, type K relays and types D and G color-position-light signals will be used in this installation.

The **Missouri-Kansas-Texas** has received authority for expenditures to cover installation of 68.3 mi. of automatic block signaling and for installation of end-to-end radio facilities on four Diesel locomotives and 14 cabooses.

The **New York Central** has ordered equipment from the General Railway Signal Company for installation of an NX electric interlocking at Girard Junction, Ohio. The control machine, to be located at Dock Junction, 13.8 mi. away, will have an 18-in. by 60-in. panel with 19 track indication lights, 10 entrance knobs, 10 exit buttons and 8 test keys for control of 14 switch machines and 18 signals.

The **Union Pacific** has ordered from the Union Switch & Signal Co. material to install coded wayside signaling on 226 mi. of double-track line between North Platte, Neb., and Cheyenne, Wyo. The order includes style P-5 color-light signals, relays, rectifiers, transformers and housings. Field installation will be handled by railroad forces.

The **Western Pacific** has received approval from its board of directors to purchase additional signaling equipment required to place its entire main line, except paired track in Nevada operated jointly with the Southern Pacific, under centralized traffic control.

IRON & STEEL

The **Missouri-Kansas-Texas** has received authority from its board of directors to purchase 53.7 mi. of new 115-lb. rail.

The **Reading** has ordered 22,500 tons of 140-lb. rail from the Bethlehem Steel Company; 2,500 tons are for 1950, and the remainder for 1951, delivery.

MARINE

The **Chesapeake & Ohio** has ordered a second 406-ft. steel car ferry from the Christy Corporation, Sturgeon Bay, Wis., at a cost of $4,500,000. (See *Railway Age* of July 8, page 110.)

COMMUNICATIONS

Fairbanks, Morse & Co. has ordered from the Union Switch & Signal Co. 16 sets of two-channel, two-way FM inductive train communication equipment, to be installed in Diesel-electric road locomotives being built for the **Pennsylvania.**

ABANDONMENTS

Applications have been filed with the I.C.C. by:

MISSOURI PACIFIC.—To abandon approximately 15.6 mi. of line between Crete Junction, Neb., and Otoe. Division 4 denied a previous application to abandon the line in 1944.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—To abandon approximately 16.6 mi. of line between Union City, Tenn., and Hickman, Ky. A previous request for authority to abandon the line was denied in 1944.

Division 4 of the I.C.C. has **authorized:**

EAST TENNESSEE & WESTERN NORTH CAROLINA.—To abandon approximately 22.6 mi. of narrow-gage branch line between O'Brien, Tenn., and Cranberry, N. C. Division 4 found that the branch has been operating at a loss since 1941.

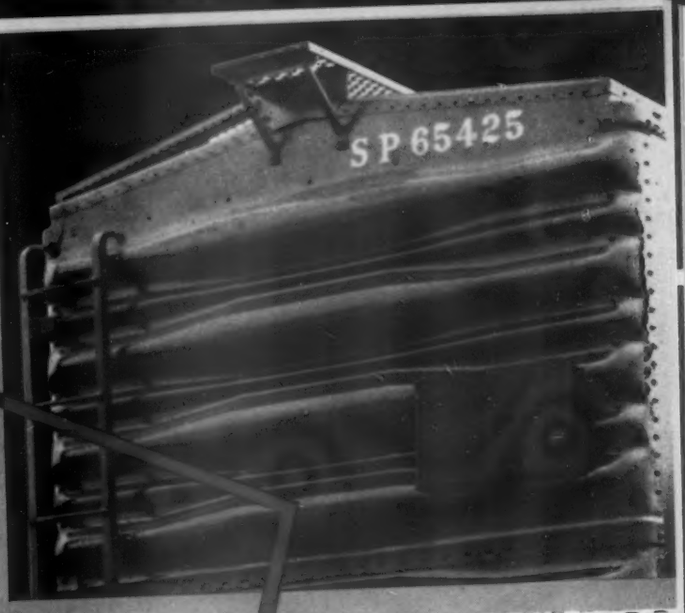
OHIO & MORENCI.—To abandon its main line, approximately 21 mi., between Berkey, Ohio, and Morenci, Mich. Division 4, which denied a similar application n 1949, found that the road s now being operated at a "substantial loss."

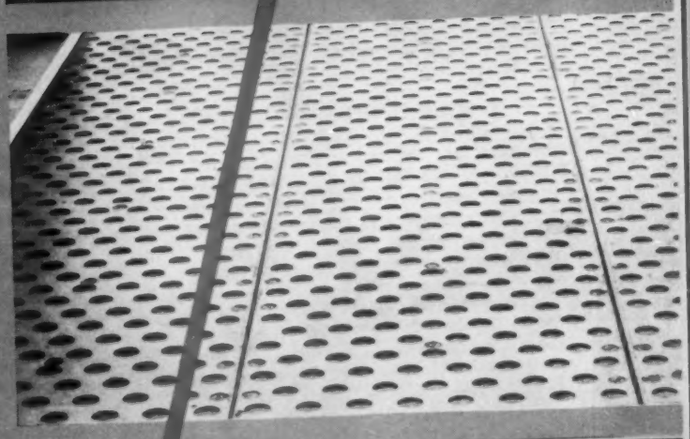
ROWLESBURG & SOUTHERN.—To abandon its entire line, approximately 7 mi., between Rowlesburg, W. Va., and Erwin.

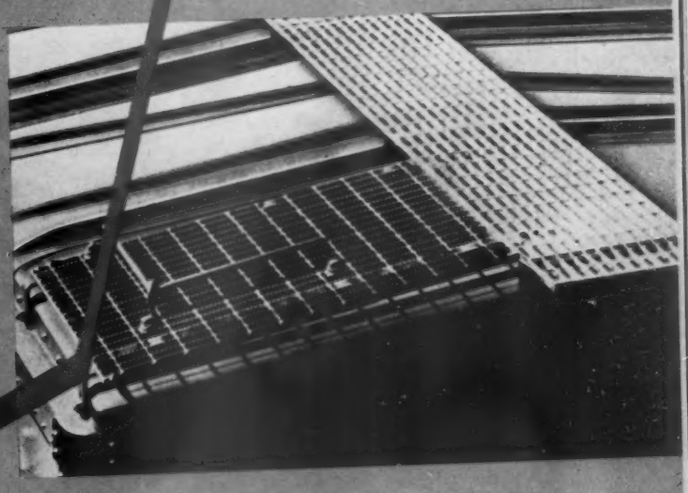
FINANCIAL

Chicago, Rock Island & Pacific. —*Control of Peoria & Bureau Valley.* —The C.R.I.&P. has applied to the I.C.C. for authority to acquire control of the P.&B.V. through ownership of capital stock. The Rock Island has operated the latter road under lease since 1854, and at present owns 6,674 shares of its capital stock, approximately 44.5 per cent of the 15,000 outstanding shares. In its application, the Rock Island said it does not propose to make a general offer to the public for purchase of more P.&B.V. stock, but asks the commission to approve control on the bais of what is presently owned. The P.&B.V. extends from Bureau, Ill., to Peoria, approximately 47 mi.

Duluth, South Shore & Atlantic. —*Reorganization Expenses.* — Division 4 of the I.C.C. has approved payment of $58,032.64 for final settlement of services and expenses in connection with this road's reorganization. The







THE REQUIREMENTS:

1950 box cars should use the BEST ENDS, ROOFS and FLOOR PLATES.

THE SPECIFICATION:

An *overwhelming majority* of these requirements will continue to be supplied by *Standard Improved Dreadnaught* ENDS, *Diagonal Panel* ROOFS and *Metal Floor Protectors.*

THE REASON:

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Standard

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sum covers the claims made by various parties for the period since September 30, 1947.

Florida East Coast. — *Reorganization.*—Division 4 of the I.C.C. has approved payment of $5,707.78 to cover services and expenses of the New York Trust Company, trustee of this road's series D equipment trust certificates, for the period May 16, 1948, to February 15, 1950. For the same period, the division approved payment of $22,500 to the trust company's principal counsel, and $2,000 to the company's local counsel.

Indiana Harbor Belt.—*New Director.*—John P. Kiley has been elected to this company s board of directors and appointed to its executive committee to succeed Charles H. Buford, resigned. Mr. Kiley recently succeeded Mr. Buford as president of the Chicago, Milwaukee, St. Paul & Pacific.

Kansas City, Shreveport & Gulf Terminal.—*Bond Extension.*—This company has applied to the I.C.C. for authority to extend to August 1, 1975, the maturity date on $150,000 of its first mortgage bonds. The bonds, which are owned by the Kansas City Southern, were due August 1.

Missouri-Kansas-Texas. — *Adjustment Bonds.*—Directors of this company have authorized payment of three coupons on its adjustment mortgage bonds. The coupons, which will become due and payable October 1, are Nos. 45, 46 and 47, dated April 1, 1945, October 1, 1945, and April 1, 1946, respectively.

Pittsburgh & Lake Erie.—*New Director.*—Frank J. Jerome, vice-president, operations and maintenance, of the New York Central, has been elected to this N.Y.C. affiliate's board of directors to succeed the late A. Rex Flinn.

Pittsburgh, McKeesport & Youghiogheny. — *New Director.* — Jonathan S. Raymond, vice-president of the Mellon National Bank & Trust Co., Pittsburgh, Pa., has been elected to succeed the late A. Rex Flinn on the board of directors of this road, an affiliate of the Pittsburgh & Lake Erie.

Texas & New Orleans.—*Construction.*—Division 4 of the I.C.C. has denied this road's application for authority to construct a 4.5-mi. line in Victoria county, Tex., which would serve the so-called Bloomington plant of the DuPont company. The application was opposed by the Missouri Pacific on the basis that its line can serve the plant adequately.

New Securities

Applications have been filed with the I.C.C. by:

MISSOURI-KANSAS-TEXAS.—To issue a promissory note of $2,410,000, proceeds of which would be applied toward refinancing the unpaid balance on two outstanding collateral trust notes. The new note, to be dated October 1, would bear interest at 2¼ per cent, and would be payable in 10 annual installments of $241,000 each, beginning April 1, 1951. It would be issued to the Republic National Bank of Dallas, Tex., holder of the two present notes. The latter notes total $2,839,485, with maturity dates of August 14, 1950, and December 31, 1951.

NEW YORK, CHICAGO & ST. LOUIS.—To issue a serial collateral note of $3,750,000, to refinance the unpaid balance on a similar note issued July 29, 1947. The new note would bear interest at 2.24 per cent, and would be paid off at the rate of $375,000 annually, beginning January 29, 1951. It would be issued to the Mellon National Bank & Trust Co., which acquired the original note through competitive bidding.

Security Price Averages

	Sept. 19	Last week	Last year
Average price of 20 representative railway stocks.	48.52	48.19	37.27
Average price of 20 representative railway bonds.	95.72	95.91	85.32

Dividends Declared

Dayton & Michigan.—common, 87½¢, semiannual; 8% preferred, $1, quarterly, both payable October 2 to holders of record September 15.

Mahoning Coal.—$12.50, payable October 2 to holders of record September 25.

New London Northern.—$1.75, quarterly, payable October 2 to holders of record September 15.

Providence & Worcester.—$2.50, payable September 29 to holders of record September 18.

CONSTRUCTION

Florida East Coast.—This road has awarded a contract to the Reed Construction Corporation for renewing a Peninsular & Occidental Steamship Co. dock bulkhead at Miami, Fla. Estimated cost of the project is $115,000.

Grand Trunk Western. — A double-track steel piling and concrete bridge is being constructed near Imlay City, Mich., by Hamer Brothers, Inc., of Detroit. The new bridge will replace a deck plate girder structure.

Missouri Pacific. —The Union of Memphis, a wholly-owned subsidiary of the M.P., has been authorized by the I.C.C. to construct approximately 1.7 mi. of new main line in Memphis, Tenn. The new line will replace approximately 1.8 mi. of the Union's present line, which the commission has authorized the road to abandon. Under an agreement with the city and the state highway department, the former is to pay $100,000, and the latter $25,000, toward the cost of relocating the line. Union's share of the cost is estimated at $282,000.

Missouri Pacific.—Projects representing an expenditure of nearly $300,000, just announced by this road, include: Installation at Ewing avenue, St. Louis, Mo., of a 260-ft. single-track concrete servicing platform with mechanical washer for Diesel locomotives, by company forces ($42,900); installation at Scheller, Ill., of tracks to service Orient Mine No. 3 of the Chicago, Wilmington & Franklin Co., by the Moore Engineering Company, Mt. Vernon, Ill. (grading), and company forces (culverts and trackwork) ($95,600); construction at North Little Rock, Ark., of a 1,442-ft. lead track and connection of two tracks in boiler shop, conversion of boiler shop to a repair shop for Diesel locomotives, construction of two inspection pits and relocation of wheel demounting house, all by company forces ($49,000); raising of track a maximum of five feet on two adjacent one-mile stretches of track at Port Crook, Neb., ($111,100). This latter project involves reconstruction of two 36-ft. pile trestles to 54-ft. concrete trestles, replacement of several lines of pipe, installation of three new pipe lines, and reconstruction of a 24-ft. pile trestle as a three-panel 39-ft. trestle on a new grade line. Grading on part of this project was awarded to George Ray, Verdon, Neb.; the rest of the work is being done by company forces.

Oregon Trunk.—The Morrison-Knudsen Company is under contract to replace five timber trestles with steel spans on concrete abutments at an estimated cost of $241,000. In addition, one timber trestle will be filled by the Parker-Schram Company at an estimated cost of $55,600.

Pittsburgh & West Virginia. — This road has authorized, at the indicated probable costs, two 30,000-gal. fuel tanks at Rook, Pa. ($10,000), and a reinforced concrete Diesel pit in roundhouse at Rook ($40,000).

Reading.—This road has awarded the following contracts at the indicated estimated costs: To the Phoenix Bridge Company, Phoenixville, Pa., for furnishing and erecting a bridge superstructure over Tulpehocken creek, Reading, Pa. ($150,000); to the J. C. Shawfield Company, Harrisburg, Pa., for classification yard grading at Rutherford, Pa. ($80,000); to the General Railway Signal Company for a car retarder installation at Rutherford ($225,000); to the H. T. Horst Construction Company, Reading, for constructing a signal tower at Reading ($21,000); and to the H. F. Ortlip Company, Philadelphia, Pa., for electrical facilities for Diesel servicing and yard floodlighting at Rutherford ($80,000).

Richmond, Fredericksburg & Potomac.—This road has awarded a contract to Doyle & Russell, Richmond, Va., for construction of a passenger station at Quantico, Va., at an estimated cost of $124,100. The following projects have been authorized at the indicated probable costs: track and signal changes in Acca yard, Richmond ($419,000); coded track circuits ($192,000), and radio train communication ($70,000).

St. Louis-San Francisco-Kansas City Southern.—To provide "additional facilities and service" at the Spencer Chemical Company's plant near Military, Kan., these roads have been authorized by the I.C.C. to con-

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struct and operate connecting tracks between their respective main lines and certain other tracks, totaling approximately 9,478 ft., which will be constructed by the chemical company. When completed, the industry tracks will be acquired and operated jointly by these roads. They will purchase the trackage at cost which, including incidental facilities, is expected to approximate $164,000. Meanwhile, the Frisco will spend approximately $2,843 and the K.C.S. approximately $3,051 in constructing their respective connecting tracks.

Spokane, Portland & Seattle.—The following work is being undertaken by the contractors named at the costs indicated: Two concrete bridge abutments at Amber, Wash., by Clifton & Applegate, Spokane, Wash. ($22,500); daylighting of Tophill tunnel, by Natt McDougall Company, Portland, Ore. ($143,000), and filling of a timber trestle, by Parker-Schram Company ($57,000).

Staten Island Rapid Transit.—A plan to eliminate grade crossings of this company, a subsidiary of the Baltimore & Ohio, recently was approved by the New York State Public Service Commission. The project, to cost approximately $6,500,000, will be handled jointly by the state and the railroad.

Texas & Pacific.—A one-story frame combination freight and passenger station, 32 ft. by 77 ft., is being constructed at Addis, La., by contractor Joseph H. Marix of Plaquemine, La. The loading platform, 296 ft. long and 24 ft. wide, will be of timber construction, with a rain-shed of metal construction. The total cost of the new depot is estimated at $69,500.

RAILWAY OFFICERS

EXECUTIVE

Elmer J. Stubbs, general superintendent of transportation of the ERIE at Cleveland, Ohio, has been promoted to the newly-created position of assistant vice-president to head up a new freight handling organization, described elsewhere in this issue. A biography and photograph of Mr. Stubbs were published in the *Railway Age* of December 10, 1949, page 76. The position of general superintendent of transportation has been abolished.

Birkett Howarth, assistant to secretary—assistant to treasurer of the READING has been appointed assistant to president, with headquarters as before at Philadelphia, Pa., succeeding the late **E. Wilbur Reich.**

As announced in the *Railway Age* of June 10, **William Reid** will take over the presidency of the HUDSON & MANHATTAN at New York on October 1, succeeding **Morris Cohon,** who becomes chairman of the board. **Henry E. Peelle** has resigned as a director and chairman of the board because he has been in failing health. Mr. Reid was elected to succeed Mr. Peelle as a director.

Robert J. Marony, vice-president and New York fiscal officer of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, has retired after 44 years of service, but will continue to be available to the Milwaukee in its New York office as a consultant. He is succeeded by **Joseph B. Murray.** Born in Philadelphia, Pa., February 9, 1881. Mr. Marony attended the College of the City of New York. He entered railroad service in December, 1906, as a clerk in the financial offices of the Milwaukee at New York, and has since held various positions in the financial and executive offices at that point. He served as assistant secretary and assistant treasurer from 1912 to 1925, and also as vice-president from 1921 to 1925. Later he was appointed New York financial representative for the road's receivers, and in 1928 became vice-president and assistant secretary. Mr. Marony has been vice-president and New York fiscal officer since December, 1945.

Robert J. Marony

Joseph B. Murray

Mr. Murray is a native of New York state and a graduate of Yale University. For many years he was associated with his brother, Thomas E. Murray, in various Murray enterprises, serving most recently as president of the Murray Manufacturing Corporation.

William H. Wenneman, formerly vice-president of finance and corporate relations of the Chesapeake & Ohio, has been elected vice-president of finance of the NEW YORK, CHICAGO & ST. LOUIS, effective October 1. Edward M. Thomas, who has been vice-president of finance and accounting for the Nickel Plate, has been elected vice-president of accounting.

FINANCIAL, LEGAL & ACCOUNTING

D. E. Macdonald, auditor of payrolls of the CANADIAN PACIFIC, has been appointed auditor of disbursements, with headquarters as before at Montreal, Que., succeeding **James Lorimer,** who has retired on pension. **G. E. Warner,** auditor of miscellaneous accounts, succeeds Mr. Macdonald as auditor of payrolls and **A. W. Blackler,** assistant auditor of agencies, replaces Mr. Warner as auditor of miscellaneous accounts.

Mr. Macdonald joined the C.P. in 1917 in the secretary's office and transferred to the comptroller's office in 1922. He was deputy auditor of disbursements for three years before becoming auditor of payrolls in 1947.

Mr. Lorimer entered the service of the C.P. in 1907 as a clerk in the office of the superintendent's accountant at Winnipeg, Man., and subsequently served as division accountant and general accountant for the auditor of disbursements there. In 1937 Mr. Lorimer was appointed general statistician at Montreal, Que., and two years later became general auditor. He was named auditor of disbursements in January, 1947.

E. H. Kelley has been appointed freight claim agent of the BANGOR & AROOSTOOK at Bangor, Me.

W. P. Heuel, auditor of station accounts and overcharge claims of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, has been advanced to assistant comptroller, with headquarters remaining at Chicago. He succeeds to the duties formerly performed by **William Kruckstein,** general auditor, who has retired after 47 years of service. Mr. Kruckstein's former title has been abolished. **J. E. Vraney,** chief traveling auditor, replaces Mr. Heuel. Mr. Kruckstein was born in Chicago on August 19, 1885, and entered railroad service in May, 1903, with the Milwaukee. After serving in various minor positions, in 1920 he became ticket auditor, and in July, 1941, was appointed auditor of passenger and station accounts. In October, 1944, Mr.

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Kruckstein was made assistant comptroller, being appointed general auditor in June, 1949.

OPERATING

W. T. Ritchie, assistant superintendent of the Eastern division of the express department of the CANADIAN NATIONAL, has been promoted to superintendent of that division, with headquarters as before at Montreal, Que., succeeding **J. J. Quinn,** who has been transferred to the Southwestern Ontario division at Toronto, Ont. Mr. Quinn replaces **S. H. Bullett,** retired. **D. E. Major,** agent at Montreal, succeeds Mr. Ritchie as assistant superintendent of the Eastern division.

Mr. Ritchie was born at Aberdeen,

W. T. Ritchie

Scotland, and joined the staff of the express department of the Halifax & Southwestern (now C.N.) in 1920 as a clerk. A few months later he transferred to Bridgewater, N. S., and within a year became acting agent there for the C.N. express department. He later served as agent at Glace Bay, N. S., and Cornwall, Ont., and in 1937 was promoted to traffic supervisor at Montreal. In 1944 Mr. Ritchie was appointed agent at Montreal and two years later was advanced to assistant superintendent of the Eastern division.

H. R. Callaham, assistant general yardmaster of the CHESAPEAKE & OHIO, has been appointed terminal trainmaster at Hinton, W. Va., succeeding **B. T. Corker,** retired.

William J. Gallivan, freight agent of the ERIE at Jersey City, N. J., has been promoted to freight and material handling engineer at Cleveland, Ohio, to assist **Elmer J. Stubbs,** assistant vice-president, in effecting freighthouse improvements described elsewhere in this issue. Mr. Gallivan joined the Erie as a messenger in its Rochester, N. Y., freight office in 1910. After serving in various positions in the Rochester area, he was promoted to inspector of freighthouses in 1928, later becoming freight agent at Hornell, N. Y., and Croxton, N. J., transfer yards, successively. He was transferred to the Jersey City station and docks in 1933.

TRAFFIC

William G. Davis, division freight and passenger agent of the CANADIAN NATIONAL at North Bay, Ont., has been appointed division freight agent at Ottawa, Ont., succeeding **F. C. Broad,** who has been transferred to Hamilton, Ont.

Adam O. Feitig, division freight agent of the SOUTHERN, has been promoted to assistant general freight agent, with headquarters as before at Richmond, Va.

Howard J. Braun, special representative in the passenger traffic department of the PENNSYLVANIA at Philadelphia, Pa., has been promoted to district passenger agent at Akron, Ohio, succeeding **W. W. Clark,** who has retired from active service.

W. P. Lacy, division freight and passenger agent of the MISSOURI-KANSAS-TEXAS at Waco, Tex., has been appointed assistant director of industrial development, with headquarters at St. Louis, Mo.

J. S. Montgomery has been appointed assistant general freight agent (rates) of the MISSISSIPPI CENTRAL, with headquarters at Hattiesburg, Miss.

W. G. Mitchell has been appointed general agent of the CHICAGO GREAT WESTERN at Spokane, Wash., succeeding **G. E. Soderholm,** transferred to Washington, D. C., as reported in the *Railway Age* of August 5.

J. I. Bonner, assistant general freight agent of the GULF, MOBILE & OHIO, at Mobile, Ala., has retired after more than 48 years of service with that road.

F. E. Rush, general agent of the CHICAGO & EASTERN ILLINOIS at Kansas City, Mo., will retire October 1, after 43 years of service.

James O. McIlyar, western traffic manager of the CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC, at Seattle, Wash., has been appointed Southeastern traffic manager, a newly established position, with headquarters at Washington, D. C., effective October 1. Promoted to succeed Mr. McIlyar is **Paul Wilson,** general freight agent at Seattle, who is in turn replaced by **J. E. Marshall,** general agent at Milwaukee, Wis. **L. J. Kidd,** general agent at Seattle, has been transferred to Milwaukee to succeed Mr. Marshall, and **F. W. Watkins,** export and import agent at Seattle (whose position will be abolished), will become Mr. Kidd's successor. **H. O. Engel,** chief clerk, freight department, at Seattle, will become assistant general freight agent at that point.

H. B. Brand, assistant manager mail and express traffic of the ATLANTIC COAST LINE, has been appointed manager mail and express traffic, with headquarters as before at Wilmington, N. C.

MECHANICAL

G. R. Thomas, assistant superintendent-division master mechanic of the CANADIAN PACIFIC at Penticton, B. C., has retired after 41 years service. Appointed to succeed Mr. Thomas is **L. E. Abbey,** division master mechanic at at Kenora, Ont., who is in turn succeeded by **J. J. Raby,** division master mechanic at Saskatoon, Sask. **Oliver Cochran,** general air brake inspector at Winnipeg, Man., has been promoted to division master mechanic, succeeding Mr. Raby. **Norman Woolley,** shop foreman at Winnipeg roundhouse, succeeds Mr. Cochran.

M. E. Fitzgerald, assistant to superintendent of motive power of the CHICAGO & EASTERN ILLINOIS, with headquarters at the road's Oak Lawn (Ill.) shops, will retire on October 1, after 37 years of service with the C. & E. I.

PURCHASES & STORES

F. C. Warren, general storekeeper of the ST. LOUIS SOUTHWESTERN at Pine Bluff, Ark., will retire on October 1 after 33 years of service. Mr. Warren is a native of Decatur, Ill., but was reared and educated in Texas where his family moved in 1886. Prior to joining the Cotton Belt he taught in the public schools of Henderson County, Tex., for nine years, and served as a bank cashier for seven years. He entered the service of the Cotton Belt in 1917 as a file clerk in the superintendent's office at Tyler, Tex., and subsequently held various clerical positions in the accounting and stores departments. Mr. Warren was appointed general storekeeper at Tyler in 1922, and three years later was transferred to Pine Bluff in the same capacity.

ENGINEERING & SIGNALING

T. B. Thompson, special engineer in the signal department of the ILLINOIS CENTRAL, has been appointed assistant signal engineer, a new position, with headquarters as before at Chicago, reporting to **H. G. Morgan,** signal engineer.

Roy N. Brodie, assistant structural engineer of the BOSTON & MAINE, has been appointed engineer of structures of that road, the Maine Central and the Portland Terminal, with headquarters at Boston, Mass., succeeding **Benjamin W. Guppy,** who retired on September 1, after more than 61 years

(Continued on page 66)

Current Publications

BOOK

Accident Facts, 1950 *Edition. Published by the National Safety Council, 425 N. Michigan ave., Chicago* 11. *Single copies,* 60 *cents, with discount scale to* 45 *cents if purchased in quantity.*

A handbook of accident statistics. Tells the most frequent causes of injuries or deaths; compares accident rates for different industries; relates accidents to age, sex, time of day, time of year and geographic location; tabulates accident costs to the nation in terms of compensation, medical expenses, insurance, etc. Gives figures on home, industrial, traffic, and other basic types of accidents in readily usable form.

PERIODICAL ARTICLE

Labor and the Railroads. Topics of the Month, July, 1950. *Published by Economic Service Agency,* 1603 *K St., N. W., Washington 6, D. C. Single copies,* 25 *cents.*

Outlines the relative positions of railway labor and labor in the manufacturing industry; explains and cites examples of featherbedding; discusses railway labor and railway costs; and reviews railway labor legislation since 1888, including a description of the functioning of the Railway Labor Act.

PAMPHLETS

Inner Packing Materials for Egg Cases. 41 pages, illustrations. Published by the Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C. Free.

Rail shipments of eggs dropped from 21,000 carloads in 1948 to 9,100 carloads in 1949. Loss of this traffic is attributed in part to an increasing percentage of damaged eggs in rail shipments. As a result of extensive studies in 1948 and 1949, the Department of Agriculture has concluded that eggs have increased considerably in size over the past 30 years, whereas, in general, the containers in which they are shipped have remained the same size, and that the damage is resulting because of the length and width of the eggs in relation to the size of fillers and flats used in shipping cases. The department recommends that a new style—described in this report—be adopted as standard, in place of the present commonly used shipping containers for market eggs.

Koppers, The Company—Its Products and Activities. 20 pages. Published by the Koppers Company, Pittsburgh 19, Pa. Free.

The story of the business that coke ovens built—how it got started, the present scope of its operations, its products, and the locations of its plants and representatives.

List of Maps Showing Railway Lines. 19 pages. Published by the Association of American Railroads, Transportation building, Washington 6, D. C. Free.

Lists atlases, United States maps (general, regional and state), world maps, local maps and individual railroad maps, each being described briefly. Addresses of the publishers and prices of the maps are included.

A Review of Railway Operations in 1949, by Julius H. Parmelee. 43 pages, tables. Published by the Bureau of Railway Economics, Association of American Railroads, Transportation building, Washington 6, D.C. Free.

This is a reprint of Dr. Parmelee's article in the January 7, 1950, Statistical Issue of *Railway Age*, with figures revised to April 1, 1950. Four appendices have been added showing, for Class I railways, the income account for the years 1949 and 1948, gross capital expenditures on railway property for the year 1949, and for the years 1945 to 1949, and purchases of fuel, material and supplies for the years 1949 and 1948.

American Opportunity Program Booklets. Published by the Chamber of Commerce of the United States, Washington 6, D. C. Price, $1.50 for the set of eight.

The C. of C. of the United States has issued a series of eight booklets under its American Opportunity Program. The titles of the booklets, and their prices are as follows: how to strengthen employee loyalty with letters (25 cents); how to tell your business story in employee meetings (15 cents); 65 films for your American opportunity program (15 cents); telling your business story on your company bulletin board (25 cents); how to tell your business story with plant tours (15 cents); radio and your American opportunity program (15 cents); how to tell your business story in your annual report (25 cents); and how to tell your business story in employee publications (25 cents).

Inland Waterways—Facts and Figures. 56 pages, illustrations, map. Published by the American Waterways Operators, Inc., 1319 F st., N. W., Washington 4, D. C.

Discusses the inland waterway system of the United States, inland waterway traffic, operations and facilities, economic aspects, and inland waterway transportation in the future. A double-page spread contains a map showing commercially navigable inland waterways of the United States, and there are several good illustrations of the types of traffic moving on waterways.

Joint Equipment Committee [Report on] Costs of Railroad Equipment and Machinery, July 1, 1950. 23 pages. Published by the Association of American Railroads, Finance, Accounting, Taxation and Valuation Department, 330 Transportation bldg., Washington 6, D. C. Free.

Brings up to date (through 1949) the report on historical costs of locomotives, freight cars and passenger cars, and average relationship of costs on various types of equipment and machinery.

Tabulation of Statistics Pertaining to Signals, Interlocking, Automatic Train Control, Telegraph and Telephone for Transmission of Train Orders, Spring Switches, and Train Communication Systems as Used on the Railroads of the United States, January 1, 1950. 48 pages. Compiled by the Bureau of Safety, Interstate Commerce Commission, Washington 25, D. C.

Contains statistics for individual railroads on the above-mentioned subjects.

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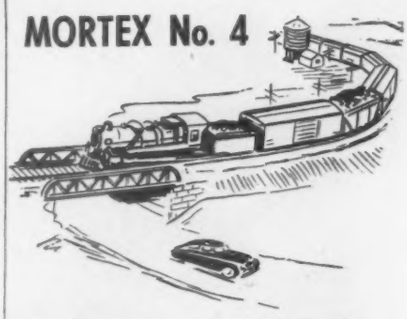

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of railroad service. **Thomas K. Dyer,** project engineer of the B.&M., succeeds Mr. Brodie as assistant structural engineer. Mr. Brodie was educated at Truro College, England, and later took courses at Massachusetts Institute of Technology. He entered railroad service with the Canadian Pacific at Montreal, Que., in 1914, and later served with the Missouri-Kansas-Texas

Roy N. Brodie

at St. Louis, Mo. He joined the B.&M. in August, 1928, as a designer and became assistant structural engineer in 1944.

Mr. Guppy was graduated from M.I.T. in 1889, and immediately entered the service of the B.&M. as a transitman. He became bridge engineer of the M.C. in 1899 and in 1909 was appointed engineer of structures of the B.&M. Mr. Guppy assumed the same duties with the M.C. and the P.T. in 1933. Serving with the 14th Engineers, Mr. Guppy was in military service from May, 1917, to February, 1919, as major and lieutenant colonel. From October, 1918, to January, 1919, he was superintendent of the port terminal facilities at St. Nazaire, France.

R. A. Emerson, engineer of track of the CANADIAN PACIFIC SYSTEM, has been appointed assistant chief engineer, with headquarters as before at Montreal, Que., succeeding **R. B. Jones,** who will retire under the company's pension regulations on October 1. Mr. Jones was born at Glasgow, Scotland, on March 21, 1885, and served his apprenticeship in railway engineering with the North British Railway from 1901 to 1906. From 1906 to 1910 he was assistant engineer with William Beardmore & Co., Glasgow. Mr. Jones joined the Grand Trunk Pacific (now Canadian National) in 1910 on design and construction of terminals at Fort William, Ont., and later on surveys and location in Saskatchewan. His C.P. service began on March 21, 1913; until 1915 he was draftsman and transitman at Montreal and worked on track revision surveys along the north shore of Lake Superior. He has been associated with extensive changes in track standards and terminal design. In 1915 Mr. Jones enlisted as a gunner in the Canadian Field Artillery and rose to officer rank in the field during four years of overseas service. From 1919 to 1939 he was assistant engineer in the office of the chief engineer at Montreal. In the latter year he was appointed engineer of track of the system and on January 1, 1946, became assistant chief engineer of the system.

OBITUARY

Ashbel B. Newell, late president and general manager of the TOLEDO TERMINAL at Toledo, Ohio, whose death was reported by *Railway Age* on September 2, was born in Buffalo, N. Y., on April 26, 1868. He graduated from Yale University in 1890, and began railroading on the Lake Shore & Michigan Southern (now New York Central). Following service as assistant trainmaster on the road's Franklin division, in 1891 he became superintendent of the Kalamazoo division at Grand Rapids, Mich. In 1892 Mr. Newell returned to the Franklin division as superintendent, serving in the

Ashbel B. Newell

same capacity on the Western division from 1893 to 1901, when he went with the White Pass & Yukon as vice-president and general manager. Between 1906 and 1907 he was engaged in the railway supply business, and subsequently joined the Arkansas, Louisiana & Gulf (now Arkansas & Louisiana Missouri) as assistant to president. He became superintendent of the Mexican Central (now National of Mexico) in 1908, and a year later was appointed president of the Tennessee Central. Mr. Newell has been serving as president and general manager of the Toledo Terminal since 1914.

Paul L. Peffer, director of personnel of the NEW YORK, CHICAGO & ST. LOUIS at Cleveland, Ohio, died on September 12 at the wheel of his automobile, while returning to his home from a meeting of the Cleveland Operating Committee at Wickliffe, Ohio. Born on August 21, 1892, at Fairview, Pa., Mr. Peffer joined the Nickel Plate as telegraph operator at State Line, Pa., on September 25, 1909. He later served as clerk at Wallace Junction, Pa.; agent-operator at Gerard and Thornton Junction, Pa., and relief agent at Buffalo, N. Y. He became assistant superintendent of the Buffalo-Cleveland division at Buffalo in 1931 and on January 1, 1934, was promoted to superintendent of that division at Conneaut, Ohio. He held the latter position until May 16, 1944, when he was promoted to general superintendent at Bellevue, Ohio. Mr. Peffer established the personnel department and was appointed its first director on November 16, 1948.

Matthew E. Harlan, who retired in December, 1949, as assistant general passenger agent of the NORTHERN PACIFIC at St. Paul, Minn., died on September 12 in that city after a brief illness at the age of 70.

Paul D. Salmon, district freight agent of the CANADIAN PACIFIC at St. Louis, Mo., died in that city on September 6, at the age of 55.

As reported in the *Railway Age* of September 16, **E. Wilbur Reich,** assistant to president of the READING at Philadelphia, Pa., died on September 8. Mr. Reich was born on September 11, 1894, in Frackville, Pa., and received his education at Frackville High School, and through extension courses of the Reading (Pa.) public schools, and electric lighting and railway courses of International Correspondence Schools. He entered railway service on May 1, 1910, as a laborer in the signal construction forces of the Reading at Reading, subsequently serving until 1931 as batteryman, signal maintainer and leading maintainer, except from November 30, 1917, to July 9, 1919, when he was in the U. S. Army Signal Corps. From 1927 to 1928, he conducted the Reading's signal school on the Reading division and, on February 1, 1930, was appointed signal inspector in the signal engineer's office at Philadelphia. He was promoted to signal engineer on September 5, 1931 and, in addition to his duties as such, was appointed superintendent of the Philadelphia, Reading & Pottsville Telegraph Company on January 1, 1941. In December, 1944, the position of signal engineer was abolished, and Mr. Reich was named superintendent telegraph and signals, which position he held until April, 1949, when he was appointed assistant to president. He was a past chairman and member of the Editing Committee, Committee I—Economics, and Committee VIII—Highway Crossing Protection, of the Signal Section of the Association of American Railroads, and author of a number of articles on modern signaling practices and developments in *Railway Signaling and Communications* and publications of the American Institute of Electrical Engineers.

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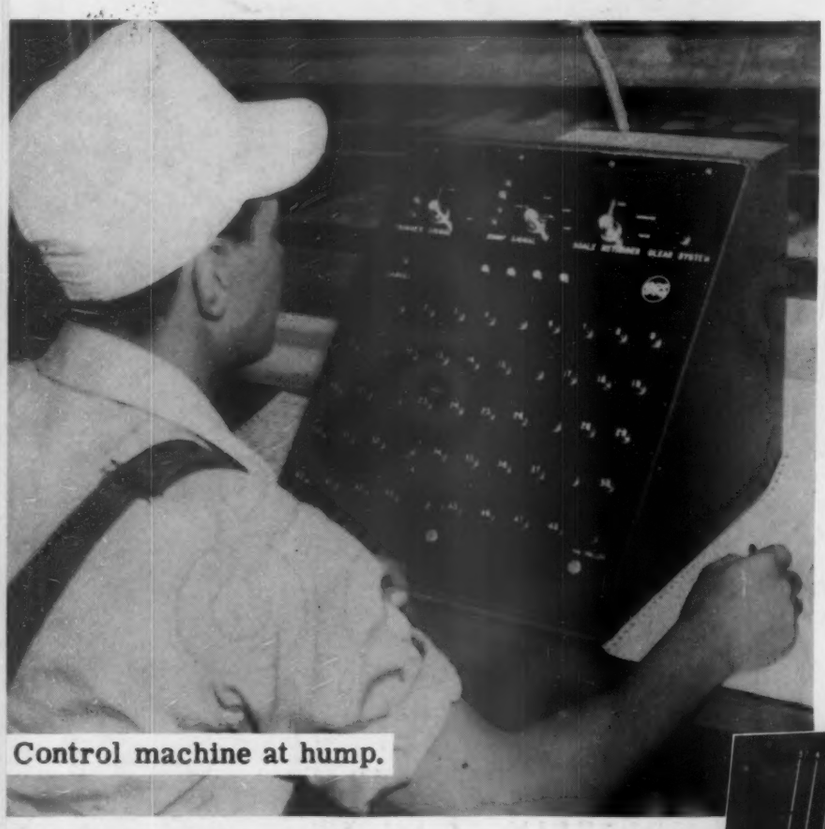

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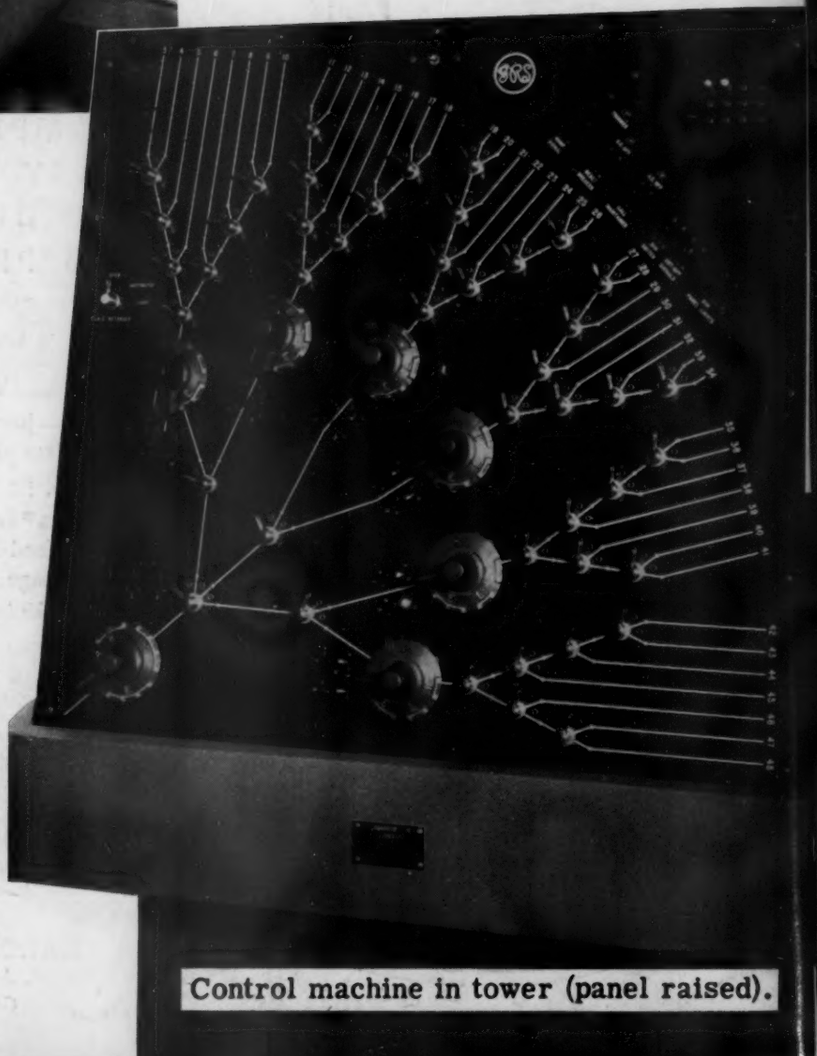

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